

THE POULTRY BOOK



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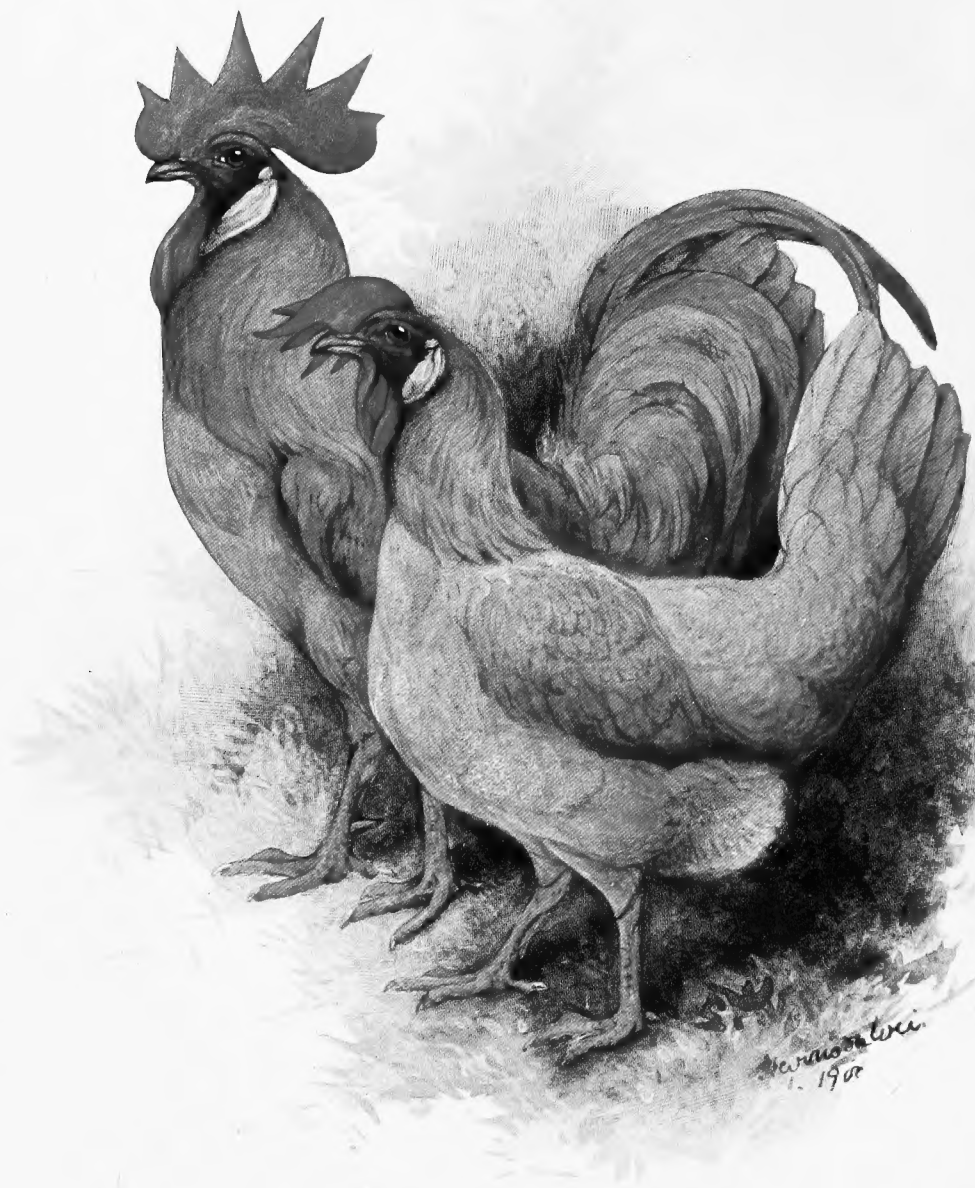
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THE POULTRY BOOK



BUFF LEGHORNS.

The property of MR. and MRS. LISTER KAY.

The Poultry Book

BY MANY EXPERT AMERICAN BREEDERS

AND

HARRISON WEIR, F. R. H. S.

under the editorship of

PROFESSOR WILLIS GRANT JOHNSON

and

GEORGE O. BROWN

*ILLUSTRATED FROM DRAWINGS IN COLOR AND BLACK AND WHITE
BY MR. WEIR, AND FROM PHOTOGRAPHS*

IN THREE VOLUMES

Volume III



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1905

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CONTENTS

	PAGE		PAGE
The Leghorns.....	787	Coucou de Malines.....	1021
Value of Careful Selection.....	792	The Bruges.....	1022
Leghorn Characteristic Shape.....	797	Lakenvelders.....	1023
Single-Comb White Leghorns.....	799	Lakenvelder Standard.....	1024
Single-Comb Brown Leghorns.....	805	Japanese.....	1026
Single-Comb Buff Leghorns.....	812	White Yokohama Fowl.....	1027
Making the Color.....	816	The Phoenix Fowl.....	1028
Keeping Accurate Records.....	817	Bantams in General.....	1033
Black Leghorns.....	828	Modern Bantams.....	1036
Silver Duckwing Leghorns.....	831	Game Bantams.....	1037
Pile Leghorns.....	834	Non-Standard Game Bantams.....	1041
Dominique Leghorns.....	839	Old English Game Bantams.....	1042
Rose-Comb Leghorns.....	841	Aseel Game Bantams.....	1042
Care and Management.....	849	The Seabright Bantam.....	1042
The Ancona.....	857	Rose-Comb Bantams.....	1044
The Minorca.....	865	White Rose-Comb Bantams.....	1046
White Minorca.....	870	Booted Bantams.....	1048
The Andalusian.....	875	Brahma Bantams.....	1049
The White-Faced Black Spanish.....	889	Dark Brahma Bantams.....	1050
The Polish.....	905	Cochin Bantams.....	1052
Polish Fowls Up to Date.....	917	Buff Cochin Bantams.....	1053
How I Improved One Strain.....	919	Black Cochin Bantams.....	1055
Careful Selection and Breeding.....	923	White Cochin Bantam.....	1056
Care and Management.....	927	Partridge Cochin Bantams.....	1057
The Hamburgs.....	929	Cuckoo Cochin Bantams.....	1059
Characteristics of Hamburgs.....	931	Nankin Bantams.....	1060
The Spangled Hamburg.....	934	Polish Bantams.....	1060
The Silver-Penciled Hamburg.....	942	The Sultan, or White-Booted Polish.....	1062
The Golden-Penciled Hamburg.....	945	The Japanese Bantam.....	1062
The Black Hamburg.....	946	Non-Standard Varieties.....	1066
White Hamburgs.....	948	Scotch Gray Bantams.....	1067
Preparing Hamburgs for Exhibition.....	950	Rumpless Bantams.....	1067
The Redcap.....	957	Frizzled Bantams.....	1067
The Houdan.....	961	Black Spanish and Black Seabright	
The Houdan as a Utility Fowl.....	965	Bantams.....	1068
Characteristic Points of the Houdan.....	973	Silky Bantams.....	1068
How to Mate for the Best Results.....	976	Belgian Breeds.....	1068
Rearing and Management.....	980	The Campines.....	1070
Preparing for Exhibition.....	985	The Ardennes.....	1070
The Faverolles.....	991	The Barber Dwarf of Antwerp.....	1070
Cock.....	993	The Domestic Goose.....	1073
Hen.....	994	Geese Flocks Driven on Roads.....	1077
Points of Color.....	994	Early Hatching.....	1078
Points to Deduct.....	995	The Sitting of the Goose.....	1079
The Crèveœur.....	997	Hatching.....	1080
The Silkies.....	1001	Rearing the Goslings.....	1082
La Flèche.....	1006	The Goose on the Farm.....	1082
The Mantes.....	1009	Embden Geese.....	1083
La Bresse.....	1010	Toulouse Geese.....	1091
The Sultan.....	1012	African Geese.....	1097
The Frizzled Fowl.....	1015	History of African Geese.....	1099
The Rumpless Fowl, or Wallikiki.....	1016	The Chinese or Swan Goose.....	1104
Turkey-Necks, Naked Necks, Gilli-		The White Chinese Goose.....	1107
kins, Nudes.....	1018	Egyptian Geese.....	1110
The Campine and Brackel.....	1019	Sebastopol Geese.....	1110
The Guelders.....	1020	The Spur-Winged Goose.....	1111

Contents—Continued

	PAGE		PAGE
The Hutchins' Goose.....	1113	Food and Feeding.....	1198
The Snow Goose.....	1113	Mating and Breeding.....	1202
The White-Fronted Goose.....	1113	Classification of Pigeons.....	1212
Canada Geese.....	1114	Favorite Varieties in America.....	1213
A Hunter's Word.....	1115	The Pouter.....	1215
Ducks.....	1117	The Barb.....	1216
Ducklings and Chicks.....	1119	Short-Faced Tumblers.....	1217
Comparison with Chicks.....	1120	The Runt.....	1219
The Domestic Duck.....	1121	The High-Class Toys.....	1219
Laying Habits.....	1123	The Turbit.....	1220
English Idea of Selecting and		The Jacobine.....	1221
Cross-Breeding.....	1127	The Owl.....	1222
American Method of Selecting and		The Trumpeter.....	1223
Breeding.....	1130	The Fantail.....	1225
Selection of Stock Ducks.....	1133	The Dragoon.....	1226
Feeding and Care.....	1135	The Scanderoon.....	1227
How to Care for Ducklings.....	1137	Florentine or Hen Pigeon.....	1228
Dressing and Shipping.....	1139	The Frill Backs.....	1228
Standard Varieties of Utility Ducks..	1141	The Priest.....	1229
The Chinese or Pekin Duck.....	1141	The Brunswick.....	1229
The White or Aylesbury Duck.....	1144	Oriental Frills.....	1230
The Rouen Duck.....	1148	The Antwerp, or Homer.....	1231
The Cayuga Duck.....	1152	A Practical House.....	1233
The Indian Runner Duck.....	1155	Successful Squab-Raising.....	1237
Blue Swedish Ducks.....	1159	Pheasants.....	1246
Disqualifications.....	1161	Housing and Feeding.....	1252
Shape of Drake and Duck.....	1161	Description of Species.....	1254
Color of Drake and Duck.....	1162	Lophophorus.....	1255
The Musk, or Muscovy Duck.....	1163	Lophura.....	1255
Non-Standard Utility Ducks.....	1164	Diardigallus.....	1256
Ornamental Varieties.....	1165	Crossoptilon.....	1257
The Crested White Duck, or the		Gennæus.....	1257
Top-Knotted Duck.....	1166	Catreus.....	1258
The Dutch Dwarf Duck, the Call		Phasianus.....	1258
Duck, the Decoy Duck.....	1166	Polyplectron.....	1260
The Wild Duck or Mallard.....	1167	Argusiannus.....	1260
The White Wild Duck.....	1169	Peacocks.....	1262
The Wood Duck.....	1169	Guinea Fowls.....	1262
The Mandarin Duck.....	1170	Syrmaticus.....	1263
The Spoonbill.....	1172	Colophasis.....	1263
Common Sheldrake.....	1172	Crysolophus.....	1263
Ruddy Sheldrake.....	1173	Jungle Fowls.....	1264
The Bow-Billed or Hook-Billed		The Peacock.....	1266
Duck.....	1173	The Guinea Fowl.....	1276
The Eider Duck.....	1174	The Turkey.....	1279
The Swan.....	1175	Brush Turkeys.....	1289
To Roast a Swan.....	1178	The Bronze Turkey.....	1289
The Commercial Value of Swans...	1181	The White Holland.....	1291
Pigeons.....	1183	The Narragansett.....	1293
Origin of Fancy Pigeons.....	1183	The Buff Turkey.....	1293
Breeding Pigeons as a Pastime or		The Slate Turkey.....	1294
for Profit.....	1188	The Black Turkey.....	1294
The Aviary, or Loft, and Its Ap-		The Bourbon Reds.....	1294
pliances.....	1191	Mating and Handling.....	1296

LIST OF COLORED PLATES

Buff Leghorns.....	<i>Frontispiece</i>
	FACING PAGE
Black-breasted Brown-Red Prize Leghorn.....	808
Modern Prize Shanghai or Cochin.....	827
Prize Black (With White Top-Knot) Polands.....	913
Red Black-Spangled Hamburgs.....	929
Golden-Barred Hamburgs.....	945
Faverolles.....	991
Toulouse Geese.....	1073
Mallard and Wild Duck.....	1117
White Aylesbury Ducks.....	1130
Prize White Pekin Ducklings.....	1144
Prize Black-breasted Silver-gray Dorkings.....	1175
Prize Dark Dorkings.....	1266

LIST OF FULL-PAGE BLACK-AND-WHITE PLATES

	PAGE
Single-Comb White Leghorn Cockerel.....	803
Rose-Comb Buff Leghorn Exhibition Birds.....	825
A Flock of Single-Comb White Leghorns About Four Months Old.....	836
A Pair of Rose-Comb White Leghorns from Exhibition Stock.....	843
White Leghorn Cock.....	851
Prize Andalusian Hen.....	881
Golden-Spangled Hamburg Cock.....	951
A Peacock in All His Glory.....	1269

LIST OF TEXT ILLUSTRATIONS

	PAGE		PAGE
Single-Comb Brown Leghorns, in Yards of W. W. Kulp, Pennsylvania.....	787	Modern Minorca as Seen in England...	872
A Typical Single-Comb White Pullet Head.....	788	Prize-Winning White Minorcas.....	873
Single-Comb White Leghorn Hen...	791	Andalusian Prize-Winner at New York, 1902.....	876
Old Style White Leghorn Cockerel...	794	Prize-Winning Andalusian Pullet...	877
Rose-Comb Brown Leghorns in the Yards of W. W. Kulp, Pennsylvania.....	797	Prize Andalusian Dairy Show Pullet..	878
Single-Comb White Leghorn Cockerel Head.....	800	A Splendid Andalusian Cockerel.....	880
Shape Sketch of (English) Silver-Medal Brown Leghorn.....	806	Prize Cockerel and Pullet—Andalusian Spanish Fowls.....	883
Single-Comb Brown Leghorn Cock, "Nina's Duke, 1st".....	810	Prize Andalusian Cockerel, Dairy Show, 1892.....	885
Single-Comb Brown Leghorn Hen, "Nina's Pride".....	812	Fine Quality Minorca Hen.....	887
First Prize Single-Comb Buff Cock, Madison Square Garden, 1904...	815	Medal of the National Society of Agriculture of France.....	888
From a Prize-Winning Pen of Single-Comb Buff Leghorns at Madison Square Garden, New York, 1904.	818	Pen of White-Faced Black Spanish Fowls.....	889
Buff Leghorn Cockerel.....	821	White-Faced Black Spanish Fowls...	890
Single-Comb Buff Leghorn, Madison Square Garden, New York, Winner of First Prize, 1904, and Several American Leghorn Club Specials.....	823	White-Faced Black Spanish Hen.....	891
Single-Comb Black Leghorn Cockerel.	828	Black Spanish Pullet, 1903.....	893
Single-Comb Black Leghorn Hen.....	830	Head of White-Faced Black Spanish Cock.....	894
Silver Duckwing Leghorn Cock.....	833	Head of White-Faced Black Spanish Hen.....	895
Silver Duckwing Leghorn Hen.....	835	Improved White-Faced Black Spanish Cockerel.....	896
From a Prize-Winning Pen of Single-Comb White Leghorns, at Madison Square Garden, New York, 1904.....	838	White-Faced Black Spanish Cock...	899
Prize Rose-Comb Brown Leghorn Hen	847	Black Spanish Cockerel.....	900
Prize Rose-Comb Brown Leghorn Cock.....	848	An Old-Type White-Faced Spanish Cockerel.....	902
Buff Leghorn Pullet.....	853	White-Faced Black Spanish Cock...	903
White Leghorn Twenty Years Ago..	854	Plain Golden Polish Cock.....	905
From a Prize-Winning Pen of Single-Comb Buff Leghorns at Madison Square Garden, New York, 1904.....	855	Group of White-Breasted Black Polish	907
The Modern Ancona.....	858	White-Crested Polish Cock.....	908
Modern Ancona.....	860	Blue Polish Cock.....	911
Prize Minorca Cockerel.....	861	Plain White Polish Hen.....	913
Black Minorca Pullet.....	862	White-Crested Black Polish Cock and Hens.....	915
Group of Ordinary Minorca Fowls with Cock's Comb Far Too Large for Comfort.....	865	Blue Polish Cockerel.....	918
Minorca Cock of Ordinary Form.....	866	White-Crested Black Polish Cock...	921
Black Minorca Cock and Hen.....	868	Prize-Winning Golden Polish Cock...	923
Good Prize Minorca Hen.....	871	Prize Polish Cockerel.....	924
		Golden Polish Hen.....	925
		Plain Silver Polish Hen.....	926
		Plain Golden Polish Hen.....	928
		Golden-Pencilled Hamburg Hen.....	931
		Prize Black Hamburg Hen.....	936
		Silver-Spangled Hamburg Cockerel..	941
		Golden-Pencilled Hamburg Cockerel..	946
		Silver-Spangled Hamburg Cockerel..	955
		Ideal Silver-Spangled Hamburgs....	956
		Ideal Silver-Pencilled Hamburg.....	959
		"Defend Your Reputation".....	962
		Houdan Chickens, Four Months Old..	963
		In the Houdan Yard.....	965
		A Houdan Pullet.....	966
		A Standard Colored Female Houdan..	967

List of Text Illustrations—*Continued*

	PAGE		PAGE
Houdan Male as It Looked When First Imported into This Country	969	Colored Muscovy Ducks	1132
Houdan Pullet, "Bonnie Lass".....	970	Old Variety of Black East India Ducks	1137
A Well-Shaped Female Houdan Crest	971	Prize Modern Rouen Duck	1140
A Standard Shaped Fifth Toe.....	972	Pekin Duck and Mixed Breed Duck- lings	1145
Prize Houdan Cockerel, 1897.....	974	Showing Structural Characters of Head and Mouth	1151
Houdan Female as She Looked When First Imported into This Country	977	Group of Common Ducks	1165
A Pen of Prize Houdan Hens in Win- ter	978	The Common White or Mute Swan	1175
Houdan Chickens a Few Days Old....	980	Black-Necked Swan with White Body	1179
First Houdan Hen at Boston, 1902- 1903	982	White Swan Nesting	1182
The Noted Sire and Undefeated Hou- dan Show-Bird "Danbury".....	985	A Loft of Fancy Pigeons Stirred to Indoor Flight	1185
Houdan Cock, the Champion Chal- lenge Cup-Winner at Boston, 1893	986	Red-Checked Male Homer	1190
A Famous Prize-Winning Houdan Pullet	987	The Jacobine	1196
First Boston Houdan Cock, 1902....	988	Blondinette Oriental Frill	1196
Salmon Faverolle Cock	992	The Barb	1196
Salmon Faverolle Hen	995	A Blue Cock Turbit	1197
Black Langshan Cock	1000	The Pygmy	1197
Japanese Silky Cockerel	1002	The Nun	1197
Japanese Silky Pullet	1003	A White Male Dragoon	1204
First Prize Buff Cochin	1005	Ruffled Moorheads	1211
Old Bantams, 1801	1008	Swallows	1217
Indian Game-Cock "Prince Imperial"	1011	A Saddle Fantail	1221
Frizzled Hen	1017	A Satinette Oriental Frill Hen	1224
Indian Game-Hen "Columbia"	1020	A Runt Hen	1224
Coucou de Malines Cock	1021	The Carrier	1225
Lakenvelder Cock	1025	The Almond Short-Faced Tumbler	1225
Prize Yokohama Cock	1031	End View of Pigeon-House and "Fly"	1233
Colored Phoenix Yokohama Cockerel	1032	Sectional View Through Center of Coop	1234
Golden Duckwing Bantam Cock	1034	South Side of Coop	1234
Black-Breasted Red-Hen Bantam	1039	Floor Plan Showing Foundation, Sills and Joists	1235
Black-Tailed Japanese Bantam Cock	1044	A Male Black-Splashed Horner with Squabs on Nest	1238
Black-Tailed Japanese Bantam Pullet	1049	A Pair of Squabs Ready for Market	1239
Silver Seabright Bantam Hen	1054	A Good Kind of "Fly"	1241
Black Japanese Bantam Cockerel	1058	A Group of Homing Pigeons	1242
Black Japanese Bantam Pullet	1064	Section of Breeding House	1243
White-Booted Bantams, 1897	1066	After the Weekly Cleaning	1244
Rose-Comb Black Bantam	1069	The Proper Way to Catch a Pigeon	1244
Burmah Bantams, 1896	1071	Interior of a Breeding House	1245
A Trio of Old Embdens	1075	A Reeves Cock	1246
"On the Warpath"	1078	Lady Amherst Pheasants	1248
White China Geese	1081	The Common Golden Pheasant	1249
Young Brown China	1084	The "Mongolian" Pheasant	1251
The Value of Animal Food (Plate I)	1088	The Peacock Pheasant	1252
The Value of Animal Food (Plate II)	1089	The Mongolian Pheasant	1253
A Bunch of Toulouse Geese on a Flor- ida Farm	1093	The Argus	1255
"On Guard"	1096	Swinhoe's Pheasant from Formosa	1256
Toulouse Goslings	1101	Elliot's Pheasant—A Native of Tibet	1257
Flock of Young Geese After a Swim	1104	A Silver Pheasant Hen	1258
Muscovy Ducks in Open Yard	1105	Male Silver Pheasant	1259
Embden Geese on the March	1109	Melanotus Pheasant or Hill Pheasant of Asia	1261
Group of Toulouse Geese on the Way to Creek	1112	The Siamese Fire-Back	1265
A Group of White Chinese Geese	1116	White, Splashed and Other Guinea Fowls	1277
Prize White Aylesbury Duck	1119	Bronze Turkey	1281
Pekin Ducks in Range	1122	Turkeys at Home in the Farm Yard	1284
Muscovy Ducks	1125	Wild Turkey	1287
Prize Rouen Drake	1128	A Prize Winner	1292
		White Holland Turkeys	1297

THE POULTRY BOOK



From a photograph

SINGLE-COMB BROWN LEGHORNS, IN YARDS OF W. W. KULP, PENNSYLVANIA

THE LEGHORNS *

E. G. WYCKOFF, New York



AFTER having just completed a short history and description of a recently developed breed of poultry, in the production of which accurate records of matings, crossings, and re-crossings have been carefully kept, I find myself somewhat embarrassed in any endeavor to find sources of reliable historical information in connection with the Leghorn, inasmuch as our forefathers were not so particular about detail in poultry culture as is the fancier of to-day. In this connection, I desire to express regret that so

* What are known as the Mediterranean breeds of fowls are classified usually in this country as follows: 1. Leghorn; 2. Ancona; 3. Minorca; 4. Andalusian; 5. Spanish. The various breeds will, therefore, be treated in this work in that order. The chapter on Leghorns by the well-known breeder and expert, Edward G. Wyckoff, of New York, is, by far, the most complete account of this group ever published. Many facts of interest, from an historical standpoint, are here brought together and systematized out of fragmentary articles heretofore scattered in poultry literature. As a successful breeder of many years' experience, Mr. Wyckoff has made the chapter all the more valuable by incorporating his own methods and ideas. Fanciers everywhere cannot fail to appreciate this splendid piece of work. In his recent English edition, Mr. Weir seems to have utterly failed to grasp the importance of the Leghorns, particularly the Whites, in this country. Some of the newer varieties, especially the Blacks, are coming rapidly to the front. The successful development of the Leghorns to their present high standard is due, largely, to the careful work of American breeders.—EDITOR.

little really good distinctly American literature has been produced relating to poultry and poultry culture; and to suggest to readers of the "Poultry Book" who may be working experimentally in the development of new breeds, or in improving upon the old, that exact data of all the various experiments—whether successful or not—be carefully kept and recorded as of inestimable value to the incoming generation of fanciers and breeders.

As to the origin of the Leghorn, various opinions have been advanced in years past by reputed authorities; and, while it is true that thirty years ago much difference of opinion existed, it now seems to be fairly well



From a photograph

A TYPICAL SINGLE-COMB WHITE PULLET HEAD

established that the original Leghorn came from Italy, that the first recorded exportation of these birds from Europe was made some time about the year 1834, and that America was the destination of this shipment. It is recorded, also, that the ship which brought the small flock to America was from the city of Leghorn, in Italy, and, there being no name by which the birds were known, that of Leghorn was applied, and the progeny of this class has to this day, both in England and America, borne such name. Allowing for a doubt that such shipment was made at the

time mentioned, or that the birds actually came from Leghorn, it is definitely known that birds of the Leghorn type had, for some years even prior to 1834, been bred in different parts of Europe, and that they were known there by the name of "Italiens."

In any event, the data furnished with reference to the 1834 importation are more or less mythical or legendary—and no writer on the subject seems able to give definite facts, or to name any particular person who was in any way connected with the transaction. It is, however, authoritatively stated that F. J. Kinney, of Massachusetts, purchased, in Boston Harbor, in 1853, a trio of Single-Comb Brown Leghorns, which had come direct

from Italy. This appears to be the earliest definite transaction in Leghorn history in America of which record has been made, and it is not entirely to our credit that the record is furnished by English authority. Mr. Simpson, of New York, is also credited with having received, during the same year, a shipment of White Leghorns which came direct by ship to the port of New York.

During the early days, the Brown and White Leghorns were alone bred to any extent, the other classes being developed from time to time, a portion in America and a portion in England.

The offspring of early matings of Leghorns were said to have, in many instances, pink or white shanks, and this characteristic caused confusion, and led to the belief among many breeders at the time that the Leghorns were really a branch of the Minorca family, and hence belonged to the Spanish class. This theory, however, has been disproven, and it seems to be now well established that the Leghorn is a class by itself and not directly related to the Spanish. The White Leghorn differs essentially from the Spanish in that it has bright yellow legs, feet, and beak, and has a red, instead of a white, face. Some authorities, such as Martin Doyle (England), aver that the Leghorn originated in America. This theory is hardly acceptable in the light of their known early history, yet, when one considers the type of the American Leghorn of to-day as compared with the stock bearing that name of fifty years ago, it might almost be termed a distinct variety. In any event, Edward Brown, editor of the *Fanciers' Gazette* (England), says, "To America first belongs the credit of discovering their value and developing their special qualities." This is undoubtedly true.

Many authorities claim, and with some reason, too, that the Leghorn has completely outstripped the Spanish and other Mediterranean breeds, in that they are hardier, that small chicks feather more quickly and reach maturity in much less time.

While on this subject, I beg to also quote as to the relative egg-producing qualities of the Minorca and Leghorn, and have taken the following from the Sydney (N.S.W.) *Daily Telegraph*:

"Charles K. Horwood, of Wagga, has been conducting some experiments as to the relative merits of Leghorns and Minorcas as layers, as a result of which he gives the palm to the former. He has made a reputation as an 'egg'-farmer, and, accordingly, speaks with some authority. Though

interesting, such a test cannot be accepted as conclusive, for the productiveness of the hens largely depends on the strain; and, good as Mr. Horwood's Minorcas may be, some one else may have a better laying strain. We think, of course, that it is generally conceded that the Leghorn is the better layer of the two, but some of our readers could doubtless give equally impartial evidence in favor of the larger breed. However, as Mr. Horwood carries on poultry farming on a large scale, and on up-to-date lines, his views carry a good deal of weight. 'Some time ago,' he says, 'J. J. McCae, poultry expert at the Hawkesbury Agricultural College, in replying to a letter of mine in which I had mentioned the number of eggs laid during a certain period by my Leghorns, said, "Very good, indeed, for Leghorns, but, if you had had Minorcas, I think you would have done even better."' G. Bradshaw expresses similar views in a recent publication of his, so I would like to give the result of a little experiment I tried with Minorcas and White and Brown Leghorns. I procured some Minorcas of the best laying strains obtainable, bred from them, and when the pullets matured I made three large, wire-netted yards and put twenty-five pullets of the three breeds into them, fed and cared for them in exactly the same way, and, at the end of seven months, I find the White Leghorns 17 per cent. ahead of the Brown Leghorns and 28 per cent. ahead of the Minorcas; or, in other words, while the Minorcas were laying 100 eggs, the Browns laid 117 and the Whites 128. These pullets were treated exactly alike from the time they left the shell, and, as I am breeder of, and prize taker with, all three breeds, and have no object in lauding one breed at the expense of another, I think it may be considered a fair trial of laying capacity. I may add that my breeding-pens of the three breeds have coincided in results very approximately with the "pullet" pens, confirming my belief that the Minorca is "not in it" with the White, or even the Brown, Leghorn, as a layer. As to the size of the eggs from the three breeds, mine average eight to the pound. I have only to quote from a letter received to-day from Sydney, which says "the head storeman at the cool-storage depot says of all the eggs in the store, yours [nearly 1,000 dozens, all laid by my own hens] are the best," to show that no complaint can be made on the score of size.' "

During the first few years of the adoption of the Leghorn to American purposes, decided improvements were made. The general type of the bird, its symmetry of outline and carriage, were greatly improved upon.



SINGLE-COMB WHITE LEGHORN HEN

First prize at Trenton, New Jersey, Inter-State Fair, 1903. Owned and bred by E. G. Wyckoff, New York

The desired colors in the Brown Leghorns were made more distinct, while the Whites were converted into a pure white, instead of a dusky yellow. The breast of the originally imported Brown Leghorn male was brown, but has now been developed into a rich and glossy black.

In 1869, England imported her first Leghorns from America, and thus had the advantage of the labor put upon the breed during its thirty years, more or less, of growth in this country. Since then, that country has imported many birds direct from Italy, and, with the crosses made, has produced a type which, according to the idea of American breeders, is not so attractive as the present-day American specimen.

Of the varieties of Leghorns, other than the White and Brown, there is no question but that the Buff comes next in favor, and, after naming these three, there is little choice in those remaining, as none of them are extremely popular at the present time in this country, although some faithful fanciers continue to breed Blacks, Silver Duckwings, Piles, and Dominiques, with, possibly, the Dominiques least favored of all.

In 1896, M. K. Boyer, of New Jersey, classified Leghorns as follows, as to popularity and merit: Brown, first; White, second; Black, third; Dominique, fourth; Buff, fifth; Silver Duckwing, sixth. Since that date, there has evidently been quite a turn of the tide in favor of the White Leghorn. Referring to this year's (1904) catalogue of the Madison Square Garden Show (New York), which show was held in January, I notice there are 139 single entries of Single-Comb Whites, as against 67 Single-Comb Browns, and, at the same time, there are 50 single entries of Single-Comb Buff Leghorns. This seems to show that the White Leghorn has exchanged places with the Brown, while the Buffs have gone up from fifth place to third, and, as a matter of fact, are practically on a par with the Brown, in second place. In comparison with the figures which I have given above, there were only three birds of the Single-Comb Leghorn variety shown other than Brown, White, and Buff at the above-mentioned show. In the Rose-Combed varieties there were 33 White Single entries and 36 Browns, being practically the same. The only other Rose-Combed varieties of Leghorns shown were Buffs.

VALUE OF CAREFUL SELECTION

It is thus seen that styles and fancies change in the line of poultry as in everything else, and I should, as a fancier, like to here emphasize my opinion, which comes from several years' observation, not only of poultry but of other live stock as well. That opinion is that *quality* and *real merit* are much more to be found in the *strain* than in the *breed*. For example, the Holstein-Friesian cattle, as a breed, produce large quantities

of milk with a low percentage of butter fats, but many single specimens and families of the breed, which come from selected strains, produce the quantity with a high percentage of butter fats. It is the strain that produces results. The breed is excellent, but poor specimens of the breed are no better than the most ordinary.

In the same manner, to achieve success with poultry, we must select the best strains we can obtain, and it makes but little difference which variety of Leghorns may be chosen, if the individual birds are well selected and well mated. The breeder who selects and mates superior birds of any Leghorn variety, and then handles them well and intelligently, will produce a strain that is worth having, and for specimens of which his neighbors will be glad to pay the price. Fanciers well know that they cannot raise choice stock for the show-room at the price it costs to produce ordinary fowls. We often hear that "such and such a breeder" receives a "fancy" price for his birds and eggs. If a breeder puts intelligence into his business, and exercises it, I do not believe he is apt to get more than his just due, no matter what price he may ask for his product. Prices are largely governed by the market for the product, and style and fancy largely control the market. At the present time, while the White Leghorn seems to be the most popular of the Leghorn varieties, I am quite certain that individual Buff birds might demand a higher price than individual White birds of the same quality. This is possibly so because the Buff is a later variety, and may be also in part accounted for by the fact that it is so extremely difficult to raise Buff birds which are all buff—an accomplishment that but few have attained up to the present time.

Of Leghorns, Professor James Long, of the Royal College (England), wrote in 1886 as follows:

"These striking birds are still popular in England, although there is not the rage for them that appears prevalent in America. The first Leghorns came from the States, and were for some time supposed to be American fowls, but they are Italian, by which name they are now known and exhibited throughout the Continent. We have seen them at French, German, Swiss, Dutch, and Danish exhibitions in far greater perfection, as regards useful fowls, than in England, and offered at exceedingly moderate prices. In North Italy they are common, and we have seen them sold at 1 s. 6 d. each, the colors not being confined to Brown and White; Blacks, Piles, and Cuckoos (blue-barred or Dominiques) being quite common.

The Brown variety was introduced by Lewis Wright and ourselves from the yard of A. M. Halstead, of New York, Mr. Tegetmeier being the first to import the Whites; the first birds to take a prize in this country, having, with the Plymouth Rocks, been bred by ourselves. We suggested the



From a drawing by Harrison Weir

OLD-STYLE WHITE LEGHORN COCKEREL

first class for American fowls ever offered by a committee, when some first-rate White Leghorns were shown. In ear-lobe these were very superior to the Brown Leghorns; but we were, nevertheless, disappointed in this particular point, for, instead of being similar in color and texture to that of the Hamburg, it was actually yellow, a color which, we are sorry to say, is still often exhibited."

The above criticism, made by Professor Long in 1886, as to the yellow color of the English Leghorn of that day, would certainly not hold good as to the modern type of the American White Leghorn, than which there are probably no whiter birds now bred.

Professor Long says further:

"The Leghorn cock should be an upright and sprightly bird, standing and carrying his tail erect, but not squirrel-fashioned. The comb is large, single, brilliantly red, firm and grown well back; the head is short; the wattles are long, pendent, even, and very red; the ear-lobes small, slightly pendent, and a clean, opaque white; the eye is large and quick; the neck, long and gracefully curved; the hackle, full and flowing; the back, very short, the tail starting up almost at the base of the saddle, which is rather broad and plentifully feathered; the breast is 'full, carried well forward'; the wings, well clipped, but not too large; the tail, large and plentifully adorned with side-sickles; the legs are brilliant yellow and rather long and slender. In white cocks, the hackle and saddle incline to the unpleasant straw color; this, however, must be avoided. Lop-combs, stained or yellow ears, and blue legs are disqualifications. The hen is a deeper bird, rather square in body, with full, round chest, close plumage, large and erect tail; the comb is large and red, and falls over to one side; the face is red, the ear-lobes white, small, and free from folds; the wattles rather short, round, and thin, and the neck long; the wings well tucked; and the legs rather long, slender, and yellow, to match those of the cock. Her comb must not be upright (*i. e.* prick-combed), although, in the moult, many hens are thus temporarily adorned.

"Brown Leghorns approach in color, in both sexes, dull-colored black-red Game-fowls. In the cock, the hackle and saddle are of a dull, gamey red, the tail being a lustrous black, the breast and thighs black, and the legs yellow. The hens, excepting in comb and shape, closely resemble black-red Game-hens. The general body color is very similar, although it is deeper, and the penciling less delicate; the breast is a deep, full salmon,

shading off to ashy brown toward the thighs. We have bred many chicks, all of which were particularly true in feather and fancy points, very precocious growers, and hardy in the extreme. The pullets are splendid layers of large white eggs—indeed, in this respect they have few superiors. They are not great eaters, and this fact, together with their productiveness, may account for their not putting on flesh for the table. At any rate, Leghorns are invaluable for the egg-farmer, and we do not hesitate to recommend them strongly.

“The Black and Cuckoo varieties resemble the others, except in color; the former, with their white ears and yellow legs and beaks, being very striking.

“One of the principal fancy points in the Leghorn is the five-point comb; but we would much rather see greater attention paid to the improvement of its size, as is the case on the Continent.”

Many of the comments made by Professor Long, in 1886, are applicable at the present time, although the American Standard on Leghorns has been revised several times during this period. The question of size will probably never be settled to the satisfaction of all. Those who breed for “fancy” do not like to see their birds grow too large, while to those who are breeding for utility alone it appears that the larger the birds grow the better are the breeders suited.

To the small poultryman and general farmer, the question of profit is all-essential, and the question of profit in poultry has been well decided in favor of the egg-producing breeds. Where Leghorns are allowed a free run, they will pick up a large part of their living during the greater part of the year. Under ordinary circumstances, it is said that the cost of raising them to maturity is about one-half that of the Asiatic varieties, also proportionately less than that of the heavier Wyandottes, Plymouth Rocks, etc. So far as my observation goes, I should think that it costs a very little less per pound to raise Leghorns than Plymouth Rocks or Wyandottes, although I am quite sure that it costs considerably less per pound to raise either of these classes than the Asiatics. If this be true, and if one secure a good-laying strain of Leghorns, there can be no question that the profit side of the ledger in the transaction will be more favorable to the Leghorns than it would have been had any other breed been selected.

The objection often raised—that owing to its small size the Leghorn

is not a good table-fowl—cannot well be sustained, for, if a Leghorn be properly fed and put in condition for the table, there is none to excel it, with the possible exception of the Game. Probably none will dispute that



Photograph by L. P. Graham, 1901

ROSE-COMB BROWN LEGHORNS IN THE YARDS OF W. W. KULP, PENNSYLVANIA

to the Game belongs the credit of being the very best domestic table-fowl that we raise ; but when we consider how difficult it is to raise Games and bring them to maturity, and how short they are in their laying qualities, ordinary mortals cannot consider them at all for steady diet, but only as a table delicacy to be seen on rare and state occasions. If our family happens to be large, it may take two Leghorns to supply the table, where it might otherwise have taken but one Brahma or Cochin ; but, if the cost of producing the two Leghorns were equal only to that of producing the one Brahma or Cochin, and, in the meantime, we had received more than twice as many eggs from the two Leghorns as from the one Brahma or Cochin, why could we not well afford the two of one rather than one of either of the others ? There is the disadvantage, of course, that we dislike to cut off profits by disposing of these egg-machines in this manner ; but it is necessary that we make a sacrifice of some kind once in a while.

LEGHORN CHARACTERISTIC SHAPE

The Leghorn cock should be trim, active and graceful ; body, plump, round, broad at the shoulders, and tapering toward the tail. He should

have a hard, close-fitting plumage, and the tail should be well balanced on a fair length of shank and thigh. The breast should be full, well curved, prominent, and carried well forward; neck, rather long, well arched, and head carried erect; back, of medium length, with saddle rising in a rather sharp, concave sweep of the tail. The tail should be rather full, carried well up, but not upright, and the wing long, well folded and tightly carried. The legs must be bright yellow and free from feathers. Hackle and saddle feathers should be long and abundant, and flow well over the shoulder and saddle. The ideal head is short and deep, with yellow beak and full, bright-red eyes and red face. The single comb must not be too large, but straight, firm, and even upon the head, bright red, and with five or six points, the Standard of Perfection allowing only five.

The Leghorn hen is not so graceful as the cock, but, owing to its lighter weight, may appear more sprightly. Its head is smaller than that of the male, short and deep, with moderately curved beak. The single comb should be of medium size, with the front standing perfectly erect, including the first spike or point. The ear-lobes should be small, thin, free from wrinkles, and fit close to the head, and the wattles medium-sized, thin, and rounded. The breast should be round and full, and the neck long and well arched. The back neither too long nor too short, with a long tail, full and carried well up, but not upright. There should be a reasonable spread to the tail, so it does not have a "pinched" appearance. The thighs should be of medium length, slender, and toes straight.

The American Standard of Perfection has not, up to the present time, given a fixed standard of weight for the Leghorn, and there is a consequent diversity of opinion as to what the correct Leghorn should weigh. The fancier, for exhibition purposes, usually prefers the females to weigh not more than five pounds, and the cocks less than six and one-half pounds. The utility breeder would like to have the females weigh six and one-half pounds and the males eight pounds. It is a matter of choice, but it is my opinion that there is little to be gained by putting too much weight to the Leghorn. Certainly, the heavier birds are not so active, and, consequently, do not forage so well, nor are they such good egg-producers.

Treating the several varieties of Leghorns, I will take them in order of their apparent present-day popularity. I will first discuss all of the single-combed varieties, and then the rose-combed birds, although I do not at all mean by this to have the reader infer that the less popular of the

single-combed varieties are more popular than the rose-combed. As a general proposition, I may safely say that the single-combed varieties are far more popular than the rose-combed, and I believe that a canvass of the situation would show the relative popularity of the different single-combed varieties to be about in the order in which they will follow.

SINGLE-COMB WHITE LEGHORNS

It seems to be the consensus of opinion of nearly all writers on the subject, that the Single-Comb White Leghorn was introduced into the United States in 1853, and that, previous to that time, this now popular breed had not made sufficient mark for itself in the world to have been given a distinctive name by which it should be known through the centuries to come. While Single-Comb Brown Leghorns are given the credit for having landed in America some years before the Whites, the White Leghorn was first to be exported to England, and the probable date of their arrival there is given as 1869. In 1873, Tegetmeier stated in his poultry book (English) that White Leghorns had recently been introduced into England, but the fowls were hardly, if at all, popularly known there.

The earliest copy of the "American Standard of Excellence" that I have seen was published in 1871, although I am sure there were one or two earlier editions. In this 1871 edition, the Single-Comb White Leghorn is referred to as "Leghorn," and its sister, the Brown Leghorn, is referred to as "Brown Leghorn." It is interesting to note how few differences there are between the Standard of to-day and the Standard of thirty-odd years ago. In some cases, words have been changed, but in very few points do the descriptions vary in marked degree. The most noticeable difference is in carriage of tail, which, according to the 1871 idea, should be carried very upright, whereas the present-day model cock bird must not carry his tail upright. Another noticeable feature is that a straw-colored tinge on neck - hackle and saddle was admissible in 1871, whereas at the present time it must be pure white throughout, even including quills. One of the greatest difficulties the present-day White Leghorn breeder has to contend with is to breed a bird with an absolutely pure-white plumage and yet show a good yellow color in the shanks. This is really the most difficult proposition White Leghorn breeders have to contend with. In the description of the Standard White Leghorn female, I find that the tail demanded must be large and full, and carried very upright in 1871, while to-day we

say the tail must be carried well up, but not upright. The Standard comb in the early days was large, while at the present time it must be neither too large nor too small.

By a comparison of the present-day birds with the old-day Standards, it would seem that the wording of the Standard has not so much effect upon the breeders as the interpretation of this wording; and this probably accounts for the fact that many specimens are exhibited at our leading shows which would almost exactly fill the bill so far as Standard description goes, yet fail to receive prizes or even honorable mention. Our judges do not all interpret the same language alike.

Up to this point, I have been treating of the Single-Comb White Leghorns, which are bred by fanciers more particularly with the desire to produce exhibition specimens and birds that conform to the expert's idea of what a prize-winner should be.

In the United States, there is another class of Single-Comb White

Leghorns which really is a type in itself, and which should not be confounded with the exhibition type that has been heretofore treated. This type was originated some twelve or fifteen years ago by C. H. Wyckoff (New York). This gentleman had been, for many years, a moderately successful general farmer. In connection with the other branches of his calling, his place had always supported more or less poultry of the usual barnyard mongrel type. Discovering the fact that, even when kept in a haphazard way, the poultry end of the farming industry was, in his case, at least proportionately



From a photograph
SINGLE-COMB WHITE LEGHORN COCKEREL HEAD
E. G. Wyckoff stock

more profitable than many other branches of that industry, he determined to make poultry raising the main line of business and to subordinate general farming. A small farm was purchased two

or three miles from a village of about fifteen hundred inhabitants. It was originally the intention to maintain an egg-farm "pure and simple," and, for this purpose, White Leghorns were selected as the most desirable breed. Poultry houses were erected, of a size sufficiently large to accommodate about 200 hens, but so divided in numbers that the flocks were limited to fifty each, it being necessary to divide each poultry house into four pens. The houses were of good size, well built, and each flock of birds had access to a yard of ample proportions, thickly planted with fruit-bearing shade trees. Mr. Wyckoff had no eye for "fancy points" in his poultry. His was the business, in the early days, of furnishing strictly fresh eggs to the New York market, and for a price considerably in advance of the highest market prices of the day. Being a keen observer, it was but a matter of a few months when he was able to distinguish the "queens" from the "drones" in his poultry hive, and it became with him a matter of selection for utility. At the end of a year or more, he found that he had considerable surplus laying stock on hand. His fame as a successful egg-farmer had spread throughout the neighboring towns and villages, and a demand immediately sprang up for breeding-pens, small flocks, and "eggs for hatching." The supply, however, more than met the local demand, and the experiment of advertising in the poultry press of the day proved a successful one. Mr. Wyckoff developed into a shrewd advertiser, and his happy phrase, "America's business hen," stands for the C. H. Wyckoff strain of Single-Comb White Leghorns; and, in that it positively stands for a utility type alone, with no reference to fancy points in any essential, it is almost unique in the annals of poultrydom. The business proved to be a profitable one, and it is to be regretted that, when the founder chose to change his vocation, those who succeeded him could not maintain the business on the same successful basis.

Successful poultry raisers are, as a rule, born, not made. The man or woman who attempts to raise poultry on a large scale will not succeed if he or she has no natural liking or inborn talent for the business.

From the point of view of a fancier, it is difficult to see a necessity for "utility only" breeds of poultry; but, when we stop to consider out of the many millions of chicks, ducklings, poults, etc., raised each year, what a comparatively small proportion is raised by the fancier, we must admit that the utility class has its place.

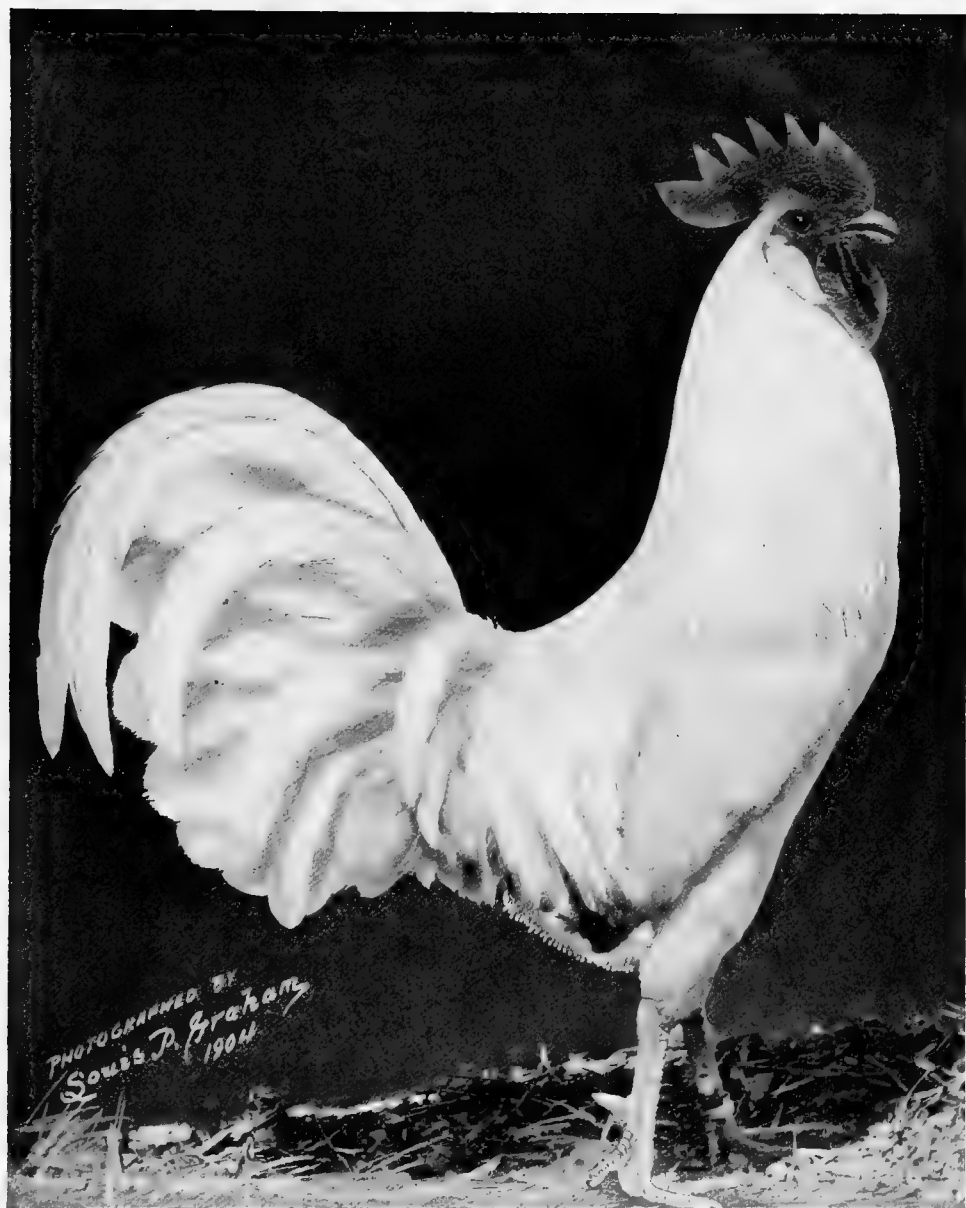
To my mind, the great danger in breeding for utilitarian purposes alone would be the tendency to too frequently resort to crosses of outside breeds for different purposes. Under ordinary conditions, and with the average breeder who is not to some extent a fancier, poultry bred from stock like that which I have here last described would be very apt to so deteriorate in four or five years that it would be no better than the most common, ordinary, mongrel stock, although it must be admitted that, with proper care, in the hands of careful, painstaking poultry-keepers, it must produce satisfactory results.

The breeding of a utility strain has its advantages as well as drawbacks. The question of single or double matings does not have to be considered to any extent, and any correct-sized male bird is considered good enough to be at the head of a pen if he has the requisite amount of vigor. It makes no difference whether his comb has the Standard-required five points or the mongrel's fifteen. It matters not if the hens or pullets be sprinkled with black feathers, or if their tails be "pinched," or shanks be white or blue, providing they have the requisite amount of business ability. They must be, above all else, veritable egg-machines, and "none others need apply."

Mr. Wyckoff, so far as I know, never exhibited in the show-room. In this, as in other details, he evinced good judgment, although I have no doubt but that, from the large number of birds which he raised, occasional show selections could have been made. It is doubtful, however, with any given bird selected for show-room purposes, if its sons or daughters would have been of any value whatever for exhibition, as exhibition birds may not ordinarily be bred along the lines he followed.

It is difficult to understand how an extraordinarily heavy egg-laying strain could have been produced without the aid of trap-nests, and, as none were ever used by Mr. Wyckoff, it must be surmised that to some extent the wonderful egg-producing qualities may have been largely the result of judicious advertising. In any event, it is certain that Mr. Wyckoff disposed of many birds and eggs annually, and that his reputation for integrity and fair dealing was of the best, and has stood the test of time.

I have treated the utility branch of the White Leghorn subject in this article for the reason that I believe it to be of sufficient importance and interest to entitle it to proper recognition. My interpretation of the subject may not be a correct one, but I can see no reason why we should not



SINGLE-COMB WHITE LEGHORN COCKEREL

Winner of first prize at Madison Square, New York, 1904. Owned and bred by E. G. Wyckoff, New York

breed for beauty as well as utility. It costs no more to feed a prize White Leghorn than a mongrel Leghorn. It requires more time and more ability to raise exhibition stock than the barn-yard variety, but my recommendation to the interested reader who may perchance be about to embark in the poultry industry would be to make a beginning in a small way, with a few of the very best birds or the very best eggs from the best exhibition strain to be had. By making a start along these lines; by a careful study of the birds and conditions and the requirements of the Standard of Perfection; by judicious selection and proper mating, any intelligent breeder may bring into existence an exhibition strain of his own. To the poultry enthusiast, this is a goal well worth earnest, honest effort.

SINGLE-COMB BROWN LEGHORNS

The Single-Comb Brown Leghorn, as has been before stated in this article, is credited with having been received in this country about the year 1834, although nothing definite seems to be known of this shipment. I. K. Felch (Massachusetts), in 1886, referring to the definite known early history of the Brown Leghorn, in an article written for *Poultry Culture*, wrote as follows:

"The first importation of Brown Leghorns into this country was in 1853. This importation was bred along the Mystic River, Connecticut, and they were then called Red Leghorns. These fowls were short on the leg, red in ear-lobe, and very small in size. The modern acquisition of white ear-lobes, long legs, and not more than five points in the comb, the dark-brown color and greater weight, has been the result of the following crosses known to the writer: Spanish sires bred upon black-red Game-hens, and the progeny to Brown Leghorn cocks, and this progeny inbred to sire. Again, black-red Game-sire upon Spanish dams, and the progeny bred to Brown Leghorn cock and inbred as before; and Black Spanish hens bred to Brown Leghorn cocks, and the progeny inbred. Thus, we have birds of type far different from the original ones, and the Brown Leghorns of 1885 are as much different in color and type from those of 1853 as can well be imagined, and they well deserve the appellation of an American breed."

With reference to the ear-lobe of the early Brown or Red Leghorn, T. F. McGrew (New York) has written as follows:

"The early-day Leghorns had rough or corrugated ear-lobes that

were thick and beefy, not white in color, but corn-color mixed with red, many of them drawn into a bunch rather than smooth against the face."

At that time, a wordy contest of considerable length took place, by which it was sought to introduce an ear-lobe at the same time consistent



From a drawing by Harrison Weir

SHAPE SKETCH OF (ENGLISH) SILVER-MEDAL BROWN LEGHORN

with nature's laws, delicate in texture, and harmonious in color. Earlobes of reddish tints and dusky yellow appeared in different strains, so that, when the "white or creamy white" ear-lobe became the standard, there were very few birds anywhere near perfect in this particular. A. W. Halstead, of New York, was among the first to produce birds true to color and with white ear-lobes.

In the American Standard of Excellence, in 1871, the requirement in colors for breast of male is mentioned as "Black, splashed with brown." The early males were known to have had brown breasts, though, evidently as far back as 1871, there arose a preference for the black. It gradually came to be observed that the rich, glossy black, similar to that of the black-breasted Red Game, was more desirable, and it was accordingly so described in the early Standards. The introduction of the black in the males, and the continuous holding to the light shade of brown in the females, have given ample opportunity for the use of the double-mating system. J. C. Williams, a breeder of this variety, in California, writing on the subject for the *Reliable Poultry Journal*, says, "The conditions have demanded double matings, which, with some breeders, have been very interesting; but, with others, it has made the breed lose its fascination, for the reason that the females from a cockerel-bred line are always worthless, and the males from a pullet-bred line are also worthless, at least for exhibition."

We do not care to enter upon an argument here as to whether the single or double-mating system is preferable; suffice it to say that the writer personally knows of breeders of high standing who continually preach on the single-mating system, while, in their own yards, the double-mating system is used altogether. It is for the reader to choose whether he will follow the line of argument, or the practical example, of the one who does not practice what he preaches.

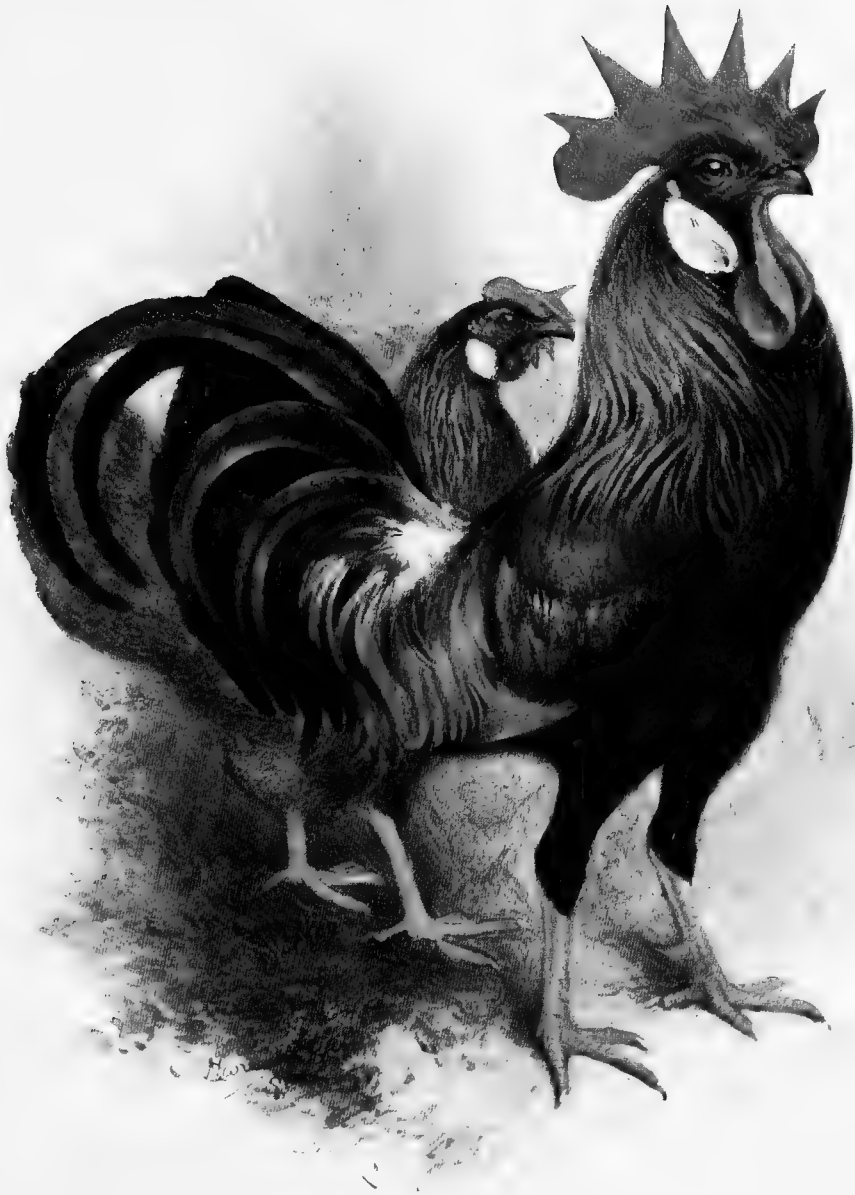
It was not until after the Civil War that the Browns came into special prominence in this country, and probably as late as 1875 before the real points of merit, as later recognized, began to be developed. In 1872, the first Brown Leghorns were exported to England, and it would seem, from the following paragraph, by an English authority, they have only recently become genuinely popular there.

"This is of nearly, though not quite, the original color of the Spanish, or Mediterranean, fowls, and may be seen in plenty, both in Spain and in many of the Italian coast towns. It was first brought into special notice by the American fanciers, and, being imported from Leghorn, was, as a consequence, so named. Its fame for egg-production having reached this country, some were imported from America, and it is said that A. C. Bradbury, near Nottingham, was among the first to recognize the valuable laying properties of the breed in the early 'seventies.' For a time, it

did not attract the attention of the English fancier so much as its beauty and usefulness merited. After a few years, its position was jeopardized by a long and wordy contention as to the color of the ear-lobe, some maintaining that it should be white, others that a primrose tint was to be preferred."

There has been much criticism in years gone by as to the latitude allowed to judges at the various shows in construing the language of the American Standard in such a way as to meet their own personal whims on any given points. In the matter of instruction to judges, the Standard of to-day is not, in some respects, up to that of twenty-five years ago. The Standard of 1879 describes the male comb: "Bright red, of medium size, firmly fixed on head, single, straight, deeply serrated (having but five or six points), extending well over the back of the head, and free from twists, side springs, or excrescences." This description is interesting in the light of that of the latest Standard wherein the comb is described as simply "bright red." It would seem that "bright red" were rather an indistinct and unsuitable description for the comb of a Brown Leghorn male bird, and it is such descriptions as these—descriptions which do not describe—which cause so much dissension and dissatisfaction in the show-room.

The early Standard requirement of the female neck in color was "yellowish-brown, each feather striped with black." Wonderful progress in breeding has been made in beautifying the Browns—the present system of color being at once beautiful and conforming more to the laws of nature in both male and female. The female neck to-day is described as being "rich orange yellow with a broad black stripe extending down the center, tapering to a point near the end of the feather, and conforming to the shape of the feather." The result of the many years of careful breeding has been the strengthening of color in a harmonious blend, at the same time defining outlines clearly and distinctly. The Standards, until the early "nineties," permitted the stripe in the female hackle-feather to be penciled in a golden brown. This allowed great opportunity for the personal opinion of the judge to be a factor deciding cuts, and was not only unfair, but the idea of penciling was wrong and unnatural. The true possibilities of the Brown in color are probably not yet fully comprehended, though the Standard of to-day gives us a specimen which marks a wonderful advance over even ten years ago, when ninety-seven-point birds were too numerous.



BLACK-BREASTED BROWN-RED PRIZE LEGHORN.

The property of Mrs. LISTER KAY.

The typical points as to carriage have been described in previous chapters dealing with the general subject of Leghorns, and, therefore, will not be again mentioned here, the requirements of carriage, shape, and size being the same in all the Leghorns. It is said of the Browns, however, that, of all the breeds, they lead in type uniformity.

They are specially qualified for town or city keeping, as they do not show dirt to the extent of the breeds with lighter-colored feathering.

The typical female is a beautiful specimen, the breast being of a rich salmon color, shading off lighter under the body, with no traces of shafting. The back feathers are light brown, finely penciled with a darker brown, the lighter shade predominating, the whole producing a soft, even, brown tint with no perceptible trace of shafting, the under-color being of a light-brown shading into a slate. The wing primaries are of a slatish brown, the outer edge of which is slightly penciled with lighter brown. The secondaries are brown, the outer web finely penciled with a lighter brown. The wings have the same delicate color, but show the black on the inner web when open. The true bird has solid-color wing, and this solidity of color is often difficult to obtain, there being a tendency toward a disfigurement caused by the appearance of reddish spots. The shanks are of a bright yellow; the toes yellow. In the male hackle, which should be a rich, brilliant red, is a well-defined stripe extending down the center of each feather and tapering toward the end. English authorities claim the stripe as a rarity in their specimens, and L. C. Verrey, of England, in notes contributed for the new book of Lewis Wright, says of the Brown Leghorn hackle, "This striping in the neck- and saddle-hackles, more especially in the former, is one of the points that American breeders have been most careful to maintain, so that a Brown Leghorn cockerel with a plain hackle is considered of little worth across the Atlantic."

Of the male, the wing-bows are bright red, the front edge black and covered by the breast-feathers. The primaries are black, the lower web of each being edged with brown. The secondaries are black, the edge of the lower web a rich brown, sufficient to produce a wing-bow of the same color. The coverts are of greenish-black, forming a well-defined bar of the same color across the wing when folded. The tail of the male, which, as in other Leghorns, should be carried well up, but not upright, must be black, with rich, greenish-black sickles and coverts. As before stated, the tendency has been to increase the extent of the black feather on the



SINGLE-COMB BROWN LEGHORN COCK, "NINA'S DUKE, 1ST"

Sire of many prize-winners. From the breeding-yards of Geo. H. Burgott, New York

male, until, at the present time, instead of a brown breast, it has one of a rich, glossy black: hence the tendency in the female to run darker of color than that required by the Standard. The tail of the female should be dull black, except the two highest main tail-feathers, which are penciled with a light brown. In mating, care should be taken not to use a darker female than the Standard requires. The correct shade is a soft, delicate brown, and not that which borders on the seal.

As a general-purpose fowl, the Brown Leghorn is hardly equal to the White or Buff, for the reason that, on an average, they do not lay so large an egg, nor do they approach the Whites or Buffs in size; still, there are, no doubt, some strains of Brown Leghorns in existence to-day which are quite the equal of any of the Leghorn varieties.

George H. Burgott (New York), a present-day poultry-breeder and judge, writes of the Brown Leghorn as follows:

"It is safe to say that not enough has yet been done in the interest of the Brown variety of Leghorns, as they are certainly grand specimens of the breed. They cannot be excelled for egg-production, and for quick-maturing broilers they have no equal; their commercial qualities, therefore, are of the very highest order.

"In the exhibition-room, they have made rapid advancement during the past five or six years, strictly upon their own merits. I can only attribute this to the wording of our present Standard. Under the Standard of twenty years ago, it was an easy matter to produce from a single mating 75 to 80 per cent. of specimens that would score well up in the 'nineties.' In the old days, average exhibition specimens were worth from \$1 to \$5 each. At the present time, with a Standard that makes the breeding of the Brown Leghorn a science, a winning specimen at any of our leading shows commands a price of from \$25 to \$100. Most breeders would prefer present-day conditions, where one bird may be raised and sold at \$50, rather than the former method of raising fifty for the \$50. In years gone by the entire production of Browns were all a good average lot, but they commanded a low figure. To-day they must be bred scientifically, and not in a haphazard way, with the result that we realize, from a few well-bred, properly reared specimens, many times the amount in actual cash that we received in former years for many times the number. This is all due to the methods that must be applied to-day in order to produce specimens of either sex that will come near the Standard requirements. I am a firm believer that, in the near future, the Single-Comb Brown Leghorns will be a near rival to any of the popular breeds of pure-bred poultry; and this fact is evinced by noting the increase in entries in the Brown Leghorn class at all of the poultry exhibitions throughout the United States and Canada.

"The fine problems we have to work out in breeding this variety make their breeding decidedly interesting. To procure a fine neck, back, and

wing in either male or female; to produce the solid, glossy, **black breast** in the male, and the clean, salmon breast in the female, and, at the same time, to show the pure yellow legs, make it no easy problem. Certain it is that, in order to produce high-grade specimens, the best of parent-blood lines are essential."

SINGLE-COMB BUFF LEGHORNS

As the Buff Leghorn of to-day is distinctly the production of English breeders, we will present herewith the English version of its origin and development. This narrative is not only interesting, but instructive, and those who have an idea that the formation of a new variety of poultry upon a solid foundation is simply a matter of taking a cross between two breeds and letting it go at that, may realize their error by a careful reading



SINGLE-COMB BROWN LEGHORN HEN, "NINA'S PRIDE"

From the breeding-pens of George H. Burgott, New York

of what follows with reference to the foundation of the parent stock of the Buff Leghorn.

There is scarcely anything more interesting to the poultry fancier, or to him more delightful reading, than the facts and experiences, the failures and successes, and, at last, the final triumph of another lover of the beautiful in nature, who, like himself, possibly, is not only seeking for "the new," but the new as nearly as it can be obtained "perfect." He it is that dreams, as it were, of a "new ideal," not of a new form only, but one with added grace, and a feathering not so much of radiant brightness, as of softened, sweetened, tender hues, taking the eye more by its harmonious loveliness than by sharpened contrasts, and which soothe not, but almost repel "the liking."

" 'Tis often seen

Adoption strives with Nature; and choice breeds
A native slip to us from foreign seeds."

And thus it is, one just imagines how many charms such a tinted form would have; then comes the endeavor to make, if it exists not, and so possess. Upon this, closely comes the question: Yes! but how? By knowledge, observation, experience, and thought, much is achieved, and so that which was, as it were, a dream, becomes a reality, a fact.

He who sets his mark high must rise, and he that has a difficult problem thinks, strives, acts, and solves it.

And so, with the restless fancier of "domesticated" animal and bird life; he admires much, but wants more. With him, it is not only the beautiful, but also "the new," and the interest of and in "making"!

Thus it was with Mr. and Mrs. Lister Kay, then of East Close, Christchurch, Hants, England, who, keeping the Brown Leghorn fowl, pictured in thought or imagery a Buff Leghorn. Then it was, how to make it? Few who succeed tell of how "they won the goal"—that is generally their secret; but, with a friendly "fancier" generosity and kindness known to few, Mr. and Mrs. Lister Kay have placed the entire MS. notes of their modes, methods, proceedings, and experiences in the "making of the Buff Leghorn" at my disposal; the way it was done, and how, and why it was—and this for the benefit of present and of future poultry fanciers. Here is the highly instructive and interesting story of the birth, life, and being of the Buff Leghorn:

"It appears that a yellow Leghorn, a color quite unknown in England,

was exhibited at Copenhagen in 1885, and there seen by the late Alexander Comyns, the then acting Secretary of the 'Poultry Club,' and the founder of *The Feathered World*—the most successful fancier paper of the day. Mr. Verrey, in his treatise on the Leghorn fowl, had noted the existence of the yellow color, for he wrote: 'The most novel color to us is the yellow as they are called over here [Copenhagen], but correctly speaking, they are chamois, or buff, color. The body is buff, with white flights and tail, and each feather of the tail has a margin of buff running round it; they look very pretty and attractive.' A pullet of this variety was exhibited for the first time in England at the Crystal Palace Show of the year 1888, by Herr Pedersen-Bjirgaard, of Denmark, but obtained no recognition from the judges, Messrs. Tegetmeier and Dixon. She was disappointing in color, being of pale primrose, and in no sense a buff, though of fair size and type.

"Here I would observe, that, in the colors of poultry, we have black and white, which are synonymous, and red and yellow. Given a black fowl, match it with white, and you get either blacks, whites, or grays. A red matched with white will often eliminate the red and leave it yellow; but, as it is natural for the fowl (cocks especially) to have black tails, when the white acts on this part it does not produce yellow or red, but, its function being either that of white or black, it will often vary to the former, being the weaker color, and sometimes a bluish-gray. Thus it was that these Danish birds had white tails, which white will frequently take many generations to get rid of. To remedy this, the best thing to do was to find, if even in another breed, fowls with red or yellow tails, and, if such had been long so bred, the prepotency of color would have the proper and wished-for effect on the white. I make this remark before reading further, for I have but little doubt, if any, that such experienced fanciers as Mr. and Mrs. Lister Kay will have adopted this principle. But to resume the very interesting narrative of the raising of the 'Buff Leghorn':

"Having heard through a Norwegian fancier friend of a Herr Heinrich Johansen, of Denmark, as a person likely to supply birds of the needful color, we applied to him, and then learned that he himself was not a breeder of the yellows. He, however, very obligingly advertised in the Danish papers, and wrote to various fanciers of his acquaintance, with the result that he ultimately succeeded in securing for us one cock, one cockerel, two hens, and two pullets, picked up 'here and there' as they could be found, and, to judge from their differences in shape and style, emanating from at

least three breeders, possibly more. Of these six birds, we at once killed three, there remaining: (1) a second- or third-season cock. This bird was of small size, with a poor comb, thumb-marked, and standing off the back of the head at an angle of forty-five, ear-lobes the size of a three-penny piece, and a squirrel-tail. His body-color was a pale primrose, or lemony-white, blotchy and uneven, the back slightly streaked with dun color, looking as if a wet comb had been drawn through the feathers, this dun color showing on the hocks.

His fans were a lemony-white and the sickles the same, their butts and tips, however, matching the hocks; the inner side of the flights lemony-white, the outer matching the sickle-butts and tips and hocks. No black feathers anywhere, nor any sign of any blue or black in fluff; legs a good yellow, with no sign of green. In type, he was a genuine and undoubted Leghorn, though a poor specimen. (2) A pullet about the size of an average Brown, with hackle noticeably darker

than the rest of her plumage; good yellow legs; fair comb and lobes.

(3) A seemingly very old hen, not much larger than a bantam, with fair lobe, and really good comb without any twist in it; the best and evenest colored bird of the three; legs pale with age, but showing no trace whatever of green.

"In none of the six birds did I see any sign of the fringing with darker color spoken of by Mr. Verrey, either in body or tail-feathers. The latter, in the case of both the hens, were, as regarded the fans, of the palest lemony-white, the sickles alone colored like the back, this color being solid, and



FIRST PRIZE SINGLE-COMB BUFF COCK, MADISON
SQUARE GARDEN, 1904

Bred and owned by E. G. Wyckoff, New York

extending over the lower two-thirds of the feathers, melting into lemony-white on the upper third.

"It will be gathered from the above description that the yellow Leghorn, though a pretty, could scarcely be called a striking, bird, and we felt that the variety, as we had seen it hitherto, was certainly not worth taking up and endeavoring to perfect on the original lines. To begin with, the color was not buff, nor anything approaching it. We therefore made numerous inquiries with a view to discover, if possible, whether there was really in existence a variety of Leghorn of a genuine buff color. The answers we received only seemed to confirm our suspicions, that, while there were to be found, in Italy, Germany, Belgium, Denmark, and the south of Norway, birds of a lighter or darker shade of yellow, more or less qualified, with white in wing and tail, a Leghorn which could be honestly called a buff existed only in imagination. Among others, we wrote to Herr Pedersen-Bjirgaard, who advertised constantly in the 'fancy' papers, both at home in Denmark, and in Germany, but was not able to hear of such a strain of Buff Leghorns. He said, 'There is positively not in existence a single good male bird of this variety. Such a one, could he be found, would be worth his weight in gold.' He then goes on to say that he has one pen of an advance in this difficult breed, though not altogether buff, but the chickens were not turning out what he could wish, yet he offered eggs.

"Further inquiries in various directions conclusively proved that only light yellow, or primrose, Leghorns were known, and they of inferior quality, but certainly no buffs.

MAKING THE COLOR

"In January of 1889 we mated up three pens, as follows:

"1. The cock mentioned above, whom we named Dannebrog, and the pullet, Dagni.

"2. Dannebrog and the hen, Dagmar.

"3. Dannebrog and two Buff Cochins pullets, purchased of the Reverend W. J. Humberstone, of Gloucestershire.

"Here a few words may be useful as to our system of keeping a stud-book, which we have done continuously since 1889, for all our birds, both Buffs, Browns, and Whites, this enabling us at any time to say with certainty as to any bird in the yards—and we have, on occasion, reared as many as

1,200 chickens, Buffs, Browns, and Whites, in a season—exactly how it is bred, and to furnish its correct pedigree for the last eight years.

“It, indeed, gives me very great pleasure to record the foregoing; it is what I have urged on the poultry breeders ‘times beyond number,’ pointed out, and that continually, the extreme value of pedigree stock, of races of long existence, of strains of certain breeds that have been such almost, if not quite so, for centuries, of the grand importance of blood and type, and the perfecting of a breed, not by alien blood, but by selection and judicious mating of the true and already good. But here is a case of a European fowl, with absolutely a foreign breed introduced, and bred to form, size, and color, simply by system, and organization of no common order.

“But we are perfectly convinced that, were some such system more universally adopted, we should soon see fewer of those meteor-like appearances and disappearances in the firmament of the ‘fancy,’ due, in our firm belief, mainly to the vicious system of mating by the eye alone, without any care to ascertain the exact relationship of the birds put together. Had the breeding of Short-horn cattle and Hampshire Down sheep been carried out on this principle, or rather want of principle, the sensational prices of the past and, on occasion, of the present would never have been realized. [This is perfectly true.] What the purchaser pays for is a pedigree in the main; in other words, definite information as to the ancestry of the stock for a certain number of years back, and not merely for the weight, quality, milking powers, or fleece of the individual, meritorious as these may be. Similarly, the advanced poultry breeder, when desirous of introducing fresh blood into his yards, will, for preference, go to a person who is known to have a strain. This word is far too often very loosely and deceptively employed where poultry-dealing is concerned, and still testifies to a general recognition of the fact that descent, carefully and truthfully recorded, has a distinct and special value of its own. Our system, then, to illustrate the doings of the year, is as follows:

KEEPING ACCURATE RECORDS

“On receipt of the birds from Denmark, we picked out an initial letter for the names of themselves and their possible winning progeny, while bred free of any admixture of other blood—‘D’ being the initial selected. We then entered into the stud-book particulars of the several

breeding-pens as before given. As the chickens hatched from the eggs of these, they were ringed with small rings, either on the right or the left shank. These rings are made in increasing sizes, to allow for the growth of the



Photograph by L. P. Graham

FROM A PRIZE-WINNING PEN OF SINGLE-COMB BUFF LEGHORNS AT MADISON SQUARE GARDEN, NEW YORK, 1904

Bred and owned by E. G. Wyckoff, New York

chickens, and of three metals, copper, brass, and German silver. Using one of these on either the right or left shank allows, it will be seen, for the separating marking of six different matings of the same variety. If a bird from another yard is introduced at any time—and this, by the way, should always be preferentially a pullet—it is entered in the stud-book under a name commencing with a different initial, and its progeny—such, at least, of them as are winners—are mostly under the same initial; non-winners are not so honored with a name, excepting always the first bird of the line; and, if used for stock, are entered as such-and-such prize-winners' relative, as the case may be, in the stud-book.

"All birds, as soon as awarded prizes, are marked with a numbered ring, and the number entered opposite the name. Thus, for the Cochin (Shanghai) pullets in No. 3 pen, of this year (1889), W. J. Humberstone's

second initial title 'J' was selected; and, as it was only intended to keep one bird of the progeny of the two pullets, they ran together under the collective names of Jacqueminot, and their chickens were all marked with the same ring. From Pen 1, we saved two pullets; from Pen 2, one cockerel and two pullets; from Pen 3, one cockerel—killing all the remainder hatched from the three pens, of the exact number of which no record was taken. The reserved birds were as follows:

"Pen 1. These pullets were whole Leghorn, of a fairly even primrose shade, and legs of an honest yellow; they were rather larger than the parents; the neck hackle of both was distinctly darker than the rest of the body—a drawback, in our opinion; the fans lemony-white, the sickles matching the rest of the body, ticked and tipped with white combs, and ear-lobe improved. Pen 2. These three birds were whole Leghorn, the cockerel a rather better version of his breed, the dun color being somewhat more pronounced on hocks, saddle, and sickles; the same streakiness on the back; lobe very poor, comb small, but evenly serrated and fairly straight in front; shanks good—the two pullets were all straw-colored. No. 3 cockerel was, of course, half Leghorn and half Cochin (Shanghai), shanks feathered, but not heavily so, and of a rich orange color, much black in tail and wings. [Here I would remark that this was probably the outcome of the white in the lemon-colored birds' tails, and so subject to that color reversion.] Color buff, but of varying shades in different parts of the body. Across the wings, when closed, are evident lighter bars of buff, which was lemon-white when the wing was spread; this being a fault that occurs occasionally to the present day, though, of course, in much modified form. [This is but the substitution of nearly white for the natural black wing bar, and, with the black or white in tail, is ever a reversion.] Hackle color absolutely even, with no sign of ticking whatever; comb, good in shape, substance, and serrations, though wanting in size. The ear-lobe, however, strangely enough, was the best part of the bird, and for this we have never been able to account; it was large and open, and fully two-thirds of it of good color. [The Cochin, or Shanghai, has comparatively a large ear-lobe, and has a tendency to white when crossed with the Black Minorca or Leghorn.] The lower third being badly feathered—that of the Cochin—but the back longer and lower at the root of the tail. [This would be so, as the shape generally in a cross favors that of the female.]

"1890. Our mating of the year was as follows:

"Pen 4. The cockerel from Pen 2, son of Dannebrog, and the pullets from Pen 1, daughters of Dagni.

"Pen 5. The cockerel from Pen 3, son of Jacqueminot, and the old imported hen, Dagmar.

"From Pen 4 we saved one cockerel and two pullets; the cockerel was useless for show. Of the pullets, Dairymaid took first prize at Dairy Show, V. H. C. at Crystal Palace; and Daisy, V. H. C. at the latter—being both yellow Leghorns. From Pen 5, of which the chickens were three-fourths yellow Leghorns and one-fourth Buff Cochin, we got, among others, the following, which were the first Buff Leghorns ever shown:

"Cockerel Jupiter, first Crystal Palace, and Jonathan, C., and two brothers, used later for stock.

"Pullets, Juliet, first at Dairy Show, first at Crystal Palace, and Julia, second at Crystal Palace.

"This year (1890), separate classes for Buffs were provided at the Crystal Palace, where also the Leghorn Club Show was held on this occasion. In December, we sold to August D. Arnold, of Pennsylvania (America), through Mr. Payne, twenty pullets from Pen 5; these were the first Buff Leghorns sent to America. We refused to sell any cockerels, the truth being that, with the exception of Jupiter and Jonathan, none of the Buff cockerels were quite clean on the shanks. The price that Mr. Arnold paid for the twenty pullets was £40 on the spot, and to this was added the expenses of transport, which must have been considerable.

"To return to the chickens of 1890: The cockerel and pullets from Pen 4 were much what might have been expected; in point of size, style, comb, and lobes, they showed just the advance anticipated, chiefly owing to selection and better feeding, but the color was about the same; and we congratulated ourselves on having foreseen this probability, and acted accordingly. The last descendants of the original Danish stock were used for breeding in 1893, and even by then they were no nearer being buff than they had ever been. We may safely say that, had this Cochin cross not been made by ourselves, or some one else, the Buff Leghorn would never have been added to the list of our varieties of the domestic fowl."

To show the method adopted by Mr. and Mrs. Lister Kay, as regards their stud-book and mating, and the means by which ultimate success was won, I give a page from their stud-book of 1891:

1891. BUFF—PEN 6

Bronze-tailed cockerel, brother to Jupiter—Dairymaid, and Daisy.

Cockerels

Jacobite (11)
Janizary (Sold to America)
Janitor (Sold to America)
Journeyman (22)
Journalist (15)

Pullets

Jocaster (44)
Junket (32)
Jessamine (7)
Jonquil (9)
Jemima (48)
Jeanette (38)
Jewel (Sold to America)

From the foregoing and the above it will be clearly seen with what care and strict attention to detail the whole of the original idea has been carried out, and how well success was merited.

Jupiter may be said to be their first buff success as a cockerel, and Juliet and Julia as to color good; Jonathan was a perfect Leghorn, buff from head to foot, fans excepted; Jupiter's brothers were not a success—the shanks feathered, etc., etc. But it will be unnecessary to follow "the making" of the Buff Leghorn in detail. Say the breeders: "We will content ourselves with explaining that the system thus followed was to keep running, side by side with the Leghorn-Cochin



Photograph by courtesy of "Farm and Home"

BUFF LEGHORN COCKEREL

First at Ottawa, 1903. Owned by John O. Allen, Canada

blood, a line of unmixed Leghorn blood, and from this to dilute the Cochin element, breeding out the Cochin shape yearly, while retaining the Cochin

color as much as possible. This system was continued until 1893, the Buff Leghorn of which year was composed of one part Cochin and thirty-one parts Leghorn.

"The result of eight years of systematic breeding was seen in the year 1896, in the first prize, Crystal Palace cockerel, a bird, as all who saw him will admit, as fit to hold his own as a Leghorn with either Whites or Browns. In point of fact, earlier in that year, at Tunbridge Wells, with Mr. Lambert judging, he was awarded first and special as the best Leghorn in the show, there being no less than seventy-four entries in the six classes.

"One thing, however, must be borne in mind, namely, that without the advantage of selection given us by breeding in large numbers, the Buff Leghorn could not possibly have been perfected at this rapid rate. In 1891, we mated one pen of yellows and yellows, and five pens of buffs and yellows, or yellow and buff (no mating was made of buff and buff), which bred 516 chickens, from which we got six cockerels and eight pullets winners, winning at the Dairy Show: First, second, and third prizes in both cockerels and pullets. First, second, and third prizes at the Crystal Palace, cup and all prizes. First, second, and third Leghorn Club Show, both in cockerels and pullets.

"In the spring of the year, we sold a sitting of eggs to Miss Pulford, Mrs. Dean, and a customer at Ealing. From eggs bought by her, Miss Pulford reared a pullet which was awarded a reserve at the Dairy Show and a V. H. C. at the Club Show. The sales at this period were remarkable. In September, we sent a consignment to Mr. Arnold, a former purchaser in America, five cockerels and twenty pullets, at the price of £70; and after the Club Show, in December, the cockerels Janizary, Janitor, and the pullet Jewel, all winners of some of the highest honors, also to Mr. Arnold, who won with them at Philadelphia and New York. For the three birds we received £55. Early in 1892, five more stock cockerels were sent out for £20.

"1892. This year we put eight pens, from which we reared 853 chickens; of these, ten cockerels and fifteen pullets proved winners. We were awarded: Dairy, first and medal, second, third, and reserve in cockerels; first, second, reserve, and V. H. C. in pullets. Palace, first, second, and third, V. H. C. in cockerels; first, cup, second, V. H. C. (2), H. C. for pullets. Club, first and special, second, and third, cockerels; first, third, and H. C.,



SINGLE-COMB BUFF LEGHORN, MADISON SQUARE GARDEN, NEW YORK, WINNER OF FIRST PRIZE, 1904, AND SEVERAL AMERICAN LEGHORN CLUB SPECIALS
Bred and owned by E. G. Wyckoff, New York

pullets. Mrs. Dean took third at the Dairy and Palace, and second at the Club.

"In December, we sent Mr. Arnold first Palace cockerel Jasper, the second pullet Jessica, and a breeding-pen of cockerels and four pullets, at a total price of £65. Many others were sold at prices varying from £20 to £5.

"1893. From six pens mated this year we reared 616 chickens, of which thirteen cockerels and eleven pullets were winners. Since 1893, we have sold no more Buffs to America, as doubtless they can now produce as good birds as we can ourselves.

"In 1894, we mated seven pens and reared 755 chickens, of which twelve cockerels and nine pullets were winners of first-class prizes.

"1895. In this year an evil befell us, many of our best pullets having lost their numbered rings through misadventure; we had to destroy most of them, as we could not rely with certainty on their exact breeding.

"1896. This season we mated five pens, and reared 429 chickens, of which seven cockerels and six pullets were winners.

"1897. We mated five pens of Buffs."

Such was the making of the Buff Leghorn; and it now stands as one of the first and foremost of its class in the public's estimation; and yet Mr. and Mrs. Lister Kay add: "As those who have taken up the breed know, much yet remains to be done, and many disappointments will have still to be encountered. For ourselves, we shall always look back to the last eight years as time well spent in adding yet one more variety of domestic fowls; and we have but little or no doubt but that it will be able in many ways to hold its own in the struggle for 'the survival of the fittest.'"

The words of Antonio, in the "Two Gentlemen of Verona," would here well apply:

"Experience is by industry achieved,
And perfected by the swift course of time."

But how far, in this case, time will perfect, only time can prove.

As to breed and color, and how it will hold, it is worthy of note that the clean, firm buff in its entirety comes from the Cochin, and that the original Leghorn employed was little more than a yellow Pied, or Pyle, or Pile as now erroneously called, the black only being changed to white; and thus it is the light bar and fans are more likely to again appear, as the blood of the Cochin is gradually eliminated. This might possibly be to some degree obviated if some of the old plain-shanked Cochins could be found, and such cross introduced. These were not short in the tail, nor were they so square in form; and they bore strong evidence of being of different origin from that of the Shanghais subsequently imported. Again, the red-breasted, old English Game would sometimes sport to almost a buff or reddish-yellow. Years ago, hens of this breed were to be seen with



ROSE-COMB RUFF LEGHORN EXHIBITION BIRDS
Owned and bred by Sylvester Shirley, Ohio



MODERN PRIZE SHANGHAI OR COCHIN.

little or no black in their tails; but nowadays their rarity is such that that color in the Game may be said to be extinct.

Also there is the Nankeen Bantam, lovely and pure in color; these sometimes are brown-black in their tails, and the cocks have a red-bronze bar; the comb is single, the shape good, but they have blue shanks; yet this would not be an unsurmountable difficulty, but, in my belief, one more easily disposed of than the Cochin form and feathered shanks.

While it is seen from the preceding description that the Buff Leghorn originated from a conglomerate origin, yet, in the short time which has elapsed since they were originated, the type has become a fixed one to-day, and, as early as January, 1898, had become so well developed that it was, at Boston, admitted to the American Standard of Perfection. As is shown in the foregoing, August D. Arnold, of Pennsylvania, was the first to import birds of this variety from England, and he has done much toward developing and popularizing them in this country—as did also the late Ezra Cornell, of New York, and George S. Barnes, of Michigan, whose labors along the lines mentioned have had a telling effect. By the earnest efforts of Mr. Barnes as secretary of the Buff Leghorn Club of America, the keen interest of the members of the Club has been kept alive, and largely through his efforts are there more articles running through the American poultry press of to-day on subjects pertaining to the beauty and utility of the Buff Leghorn than on any other individual breed. The difficult part of Buff Leghorn breeding has been to obtain the desired evenness of surface color which would be free from shafting or mealy appearance, and to get in the male, the head, neck, hackle, back, wing-bow, saddle, and in the female the head and neck, richly glossed with metallic luster.

Until apparently recently, but little attention has been paid to the development of a correct Leghorn comb on the Buff; but, at the present time, many specimens are shown quite equal in comb to the best of any of the other varieties.

From experience in my own yards, I am quite satisfied that a strain of Buff Leghorns is now being produced which is quite the equal in egg-production of any other variety of Leghorns. I do not see but that the Buffs are as hardy and mature as quickly as any other variety, but as I have said previously, in this article, my opinion is that there is not so much difference between the different varieties of Leghorns as there is between

strains, and, if a first-class strain may be selected, one cannot make a mistake in the variety.

BLACK LEGHORNS

The Black Leghorn is said to have been first brought into the United States in 1872, by Reed Watson, of Connecticut. The original stock came from Genoa, Italy, and was of Italian origin. It is stated that the



Photograph by J. P. Graham, 1904

SINGLE-COMB BLACK LEGHORN COCKEREL

Bred and owned by F. W. Triviss, Michigan

progeny from the first pen of birds received were of various colors and classes, although the parent stock was pure black. There were a few brown Leghorns, some black and white, others tricolored, and it is said that there were three or four buff-colored young birds in the lot. There was one rose-combed Black, and the remainder were straight, single-combed Blacks. It can well be imagined that Mr. Watson was not any too well pleased with his purchase, and he soon disposed of this entire lot. However,

being satisfied that the Black Leghorn was the breed which best suited his fancy and met his requirements, he again, in 1876, after having disposed of all the old stock, imported two cocks and three hens. This importation reached New York in July, by the bark *Ironsides*, and Mr. Watson had no trouble in breeding satisfactory birds from this lot.

The Black Leghorn must have been in a mature state of development when the first birds were shipped to this country, for, three years after the original birds arrived, we find the Black Leghorn in the Standard of Excellence (1875). It is not known when or where the Blacks were

admitted, as the old records of the American Poultry Association have been lost or destroyed. Suffice it to say that the Black Leghorn has been a recognized Standard variety of fowl in the United States since 1875.

About fifteen years ago, from 1889 to 1894, the Black Leghorn appears to have been at the zenith of its popularity in this country, although such a meritorious bird as it is would again come to the front in short order if its good qualities were better known by the breeders of to-day. In 1891, the American Black Leghorn Club was organized, and a catalogue issued. This Club flourished for five or six years, and then, so far as I can learn, from lack of support, was allowed to fall into a state of "innocuous desuetude." Quite recently, interest in the Black Leghorn has been revived, and it is becoming more generally known to the fancier, with the prospect that we shall see larger classes of them at coming fall and winter shows.

The difficulty in raising Standard Black Leghorns appears to be in getting pullets with yellow shanks, although there is not the same difficulty with cockerels. Another difficulty seems to be a tendency of feathers other than black to frequently appear in the plumage.

In order to give the English point of view, I will give a quotation, which is credited to James Ashcroft, a well-known English breeder of Black Leghorns:

"This variety of the Leghorn family holds, I think, the premier position as a good, hardy fowl and excellent egg-producer. It is particularly well suited to our smoky manufacturing towns, as it does not show the wear and tear of plumage when kept in confined runs, as its more delicate relatives do. During severe weather, when other kinds are at a complete standstill, so far as egg-producing goes, they keep up a regular supply of eggs, which are wonderfully fertile.

"Chickens, with ordinary care, are robust, grow and feather quickly, and are easy to rear, the percentage of loss by death being very small.

"With the cocks, a great fault is the splashed white tail, which occurs very frequently to a greater or less degree. The legs, however, in the cocks usually come a good yellow, while in the hens this more often fails. On the other hand, hens have a good uniform black plumage throughout. That these defects, by careful mating, can be eradicated, I feel sure, although I have heard it stated by naturalists that it is against nature to produce a solid black bird with pure yellow legs, the more natural color

being mottled legs. These defects, however, are no greater than any one finds in breeding Buffs, the disappointments which occur with white-



SINGLE-COMB BLACK LEGHORN HEN

Bred by F. W. Travis, Michigan

tailed cocks and uneven-plumaged hens being many.

"Black Leghorns are, without doubt, excellent members of the Leghorn class, and are destined to be, in the near future, quite as popular as the other Leghorn varieties."

Leghorns of all varieties are more or less naturally wild, but the wild state seems to be emphasized in the Black, and, on slight provocation, they will make a flight of from fifty to one hundred yards with apparent ease. They are said to be excep-

tionally hardy, and to bear confinement well. It is a well-established fact that their egg-producing qualities are of the highest order, and the size of the egg is larger than that produced by ordinary strains of other varieties of Leghorns. As a general rule, the Black Leghorns shown are larger than the majority of other Leghorns.

Notwithstanding their size, they are active, and birds with free runs are splendid foragers, and, as a rule, small eaters.

When first hatched, the majority of chicks have dark legs, which gradually become yellow, especially with the cockerels. The chicks are easily reared, and, with proper care, usually free from disease.

The comb of the Black Leghorn cock is, in general, too large and

irregularly pointed to suit the Leghorn fancier of to-day, but, with care, this may be remedied.

In the mating of the breeding-pen, I would advise the selection of a cock with a rich, glossy black plumage, with the accompanying greenish sheen throughout, and with a good face with bright-red wattles, white earlobes, and with yellow legs; he to be mated with pullets of good shape, with solid black bodies, yellow legs, red wattles, white earlobes, medium-sized comb, evenly serrated with but five or six points, drooping to one side, the front standing as nearly erect as possible, including the first spike. The Standard of Perfection allows the shanks to be yellow, or yellowish-black, but, in the selection of birds for breeding-pens, it is desirable that the black be eliminated as much as possible in the leg-color. Pens mated along the lines of these suggestions cannot fail to produce birds which will give the keenest sort of competition in the exhibition-room, and which would land a large number of "firsts" in any present-day competition. In Leghorn breeding, I do not believe there is any field to-day which could be entered by the amateur fancier that would produce such prolific results as that of breeding the Black Leghorn. The experimental stage has been passed, and it is not necessary to sacrifice utility for points of perfection. It is to be earnestly hoped that the next few years will bring about a keen revival of interest in this meritorious breed.

SILVER DUCKWING LEGHORNS

Duckwing Leghorns are not extensively bred in the United States at the present time, although there are some choice specimens of Silver Duckwings occasionally shown. There is a Golden Duckwing Leghorn known in England, but the American Standard of Perfection does not yet recognize such a variety. The Silver Duckwing Leghorn was admitted to the American Standard of Perfection at the meeting of the American Poultry Association held in Boston in January, 1898.

Duckwing Leghorns are distinctively of English origin, and G. Payne is credited with being the originator. His first crosses leading to the production of the Duckwing were made in 1881, but it was not until after 1886 that he was able to produce birds which were sufficiently good for exhibition purposes, and of his exhibition birds—two pullets and a cockerel—it is said that the latter was a very poor show specimen. In 1889, Mr. Payne is credited with having visited Antwerp with a collection of his

birds, where his Duckwings took first and medal. While on this visit, Mr. Payne obtained, for crossing, a long-tailed Japanese Phoenix cock. By this cross a decided improvement in color was obtained, but bad effects were seen for several seasons, the principal objection being that, in the male progeny, sickles had been produced which swept the ground—an undesirable adjunct which it required time and patience to efface.

In all essential points, the color of the Silver Duckwing Leghorn is the same as that of the Silver Duckwing Game, except in the striping of the hackle. In the Leghorn male, the hackle should be silvery white, with a narrow black stripe running along the center of the lower hackle-feathers, while in the Game it should be of the same silvery white, but free from black stripes. In the female Leghorn, the hackle is silvery-gray, with a narrow black stripe through the middle of the feathers, and the same description answers for the Game, although the plumage of the neck in the Leghorn, other than the hackle, is a light salmon color.

There was probably, originally, no intention of attempting to breed both the Golden and Silver Duckwing Leghorn, but the Golden followed the Silver as a matter of course. In England, at the poultry shows, there is but one class of Duckwing Leghorns, which is simply "Duckwings." Here the Goldens and Silvers vie with each other for the coveted prizes, and it is stated that the winners are almost invariably Golden Duckwing cocks and Silver females. It is said that good Silver Duckwing males and females may be produced from one mating, while it is an absolute impossibility to obtain good male and female specimens of the Golden variety without the aid of the double-mating system. This is true for the reason that, while a good gold-colored cock would breed undesirable pullets (red or rusty on the wings), it is necessary for use in the production of Standard Golden cockerels. And while good colored Golden cockerels could be produced only from more or less rusty hens, the pullets from these hens were useless as representative specimens of the breed.

Some English writers credit R. Terrot with having shown, at the Crystal Palace Show of 1886, a Duckwing Leghorn cockerel on which he won second prize. They further claim that Mr. Terrot is entitled to credit as originator of this variety. It is admitted that Mr. Terrot did exhibit the single Duckwing Leghorn at the time and place mentioned, but it is claimed that the bird so exhibited was a solitary cull from a cross he had made between a silver-gray Dorking and a Duckwing Game, and that no

other results from the experiment were ever seen; and, as it is admitted that Mr. Payne showed Duckwing pullets as well as cockerels at one show, long before any one else thought of doing so, it would seem to be quite well established that Mr. Payne should be entitled to the credit of being the originator of the variety.

A statement in an English article on Black Leghorns, which quite attracted my attention, is as follows: "To Duckwings only will Black Leghorns yield pride of place as egg-producers, and, like the first named, they will, if well cared for, lay throughout the severest winter." As the Duckwing Leghorn is a Leghorn, it must necessarily be placed in the category of an egg-producing variety of poultry, but it is a surprise to me that it is claimed to be the equal of, or even better than, the Black Leghorn; and my opinion is that the person who made this statement must have had experience with some extraordinarily good strain of Duckwings or correspondingly inferior strain of Blacks. I have not had sufficient experience of my own to speak with authority on the corresponding merits of these two varieties, but the impression conveyed to me from a general knowledge and investigation of the subject has always been to the effect that the Blacks were, as a rule, the more prolific egg-producers of the two varieties.

From a careful survey of the subject, it appears that, in England, practically but one class of female Duckwings is really recognized—that being the



SILVER DUCKWING LEGHORN COCK
Bred by Sylvester Shirley, Ohio

Silver. In the males, there are the two classes, but each with a Silver mate. That is to say, there is so little difference in the color and markings of the females, as they run, that they are scarcely distinguishable from each other. The body-color of the Silver hen should be lighter, of a silvery gray, each feather having a very slight edging of light silvery gray, just a trifle lighter than the general color. In general appearance, the plumage of the Silver hen is described as having a "softer" look than the Gold hen. It would certainly take the eye of an expert to distinguish between Golden and Silver Duckwing females.

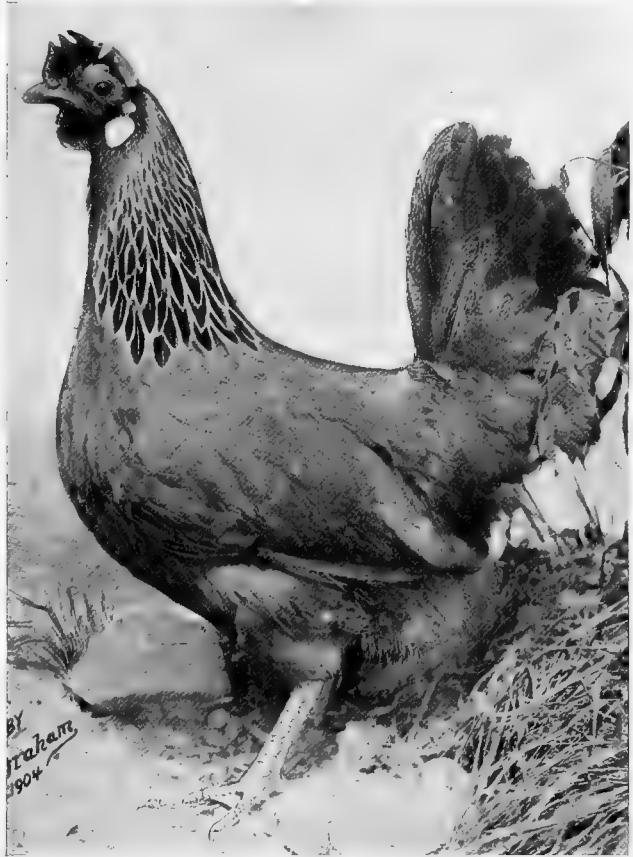
As a matter of fact, it is often difficult to distinguish between the Silver Duckwing females, as bred by fanciers in this country, and the Brown Leghorn. There are many points of difference, but the casual observer might readily be deceived into believing that a Duckwing pullet was, in reality, a Brown. The breast of the Duckwing Leghorn is described as "light salmon," but the shading often seen in these birds could readily be described as "rich" salmon, supposed to be a mark of distinction for the Brown.

It is rather surprising that such showy, distinguished-looking Leghorns as the Duckwing should not have commanded greater attention of fanciers and breeders in this country, and I believe the field to be a fertile one for the ambitious fancier of to-day. The Duckwing Leghorn is popular in England because the breeders there have taken a fancy to the variety and have bred it up to their ideals of what it should be. There is no reason why the American fancier should not make an effort to put the Duckwing class where it belongs in this country. This is a proposition which should especially appeal to the younger generation of fanciers for the reason that they would have but little competition to contend with at the outset, and could make their mark in the poultry world in a comparatively short period, while it might take years to reach the same level with some of the older and better-established varieties, to which the older and more experienced breeders are giving their thought and attention.

PILE LEGHORNS

Pile Leghorns, like Duckwings, are of English origin, and the origination is also credited to G. Payne. The Pile Leghorn, as did the Duckwing, ultimately resulted from the original cross of White and Brown made by Mr. Payne in 1881, and we are to understand from the accounts given

by Mr. Payne, or at least credited to him, that no foreign blood was used in the building up of the Pile. That is to say, no blood was used in the make-up other than the White and Brown Leghorn. It is admitted that, after the strain was fairly well established, fresh Brown Leghorn blood was introduced for a change of blood, in order not to inbreed for too many generations. Where a change of blood was necessary, a Brown Leghorn cockerel would be mated with a pen of specially selected pullets, and, during the following season, the cockerels from this pen were mated with Pile-bred hens, and the pullets to Pile-bred males, which system of introducing new blood proved quite satisfactory.



Photograph by L. P. Graham, 1904

SILVER DUCKWING LEGHORN HEN

Owned and bred by Sylvester Shirley, Ohio

There are very few Pile Leghorns in the United States, and only rarely are they seen in the show-room here. As they are not recognized as Standard Leghorns in this country, they must be shown in the "all-other-varieties" class at the exhibitions. In England, however, they appear to have preference over the Duckwings.

It may readily be claimed for the Pile Leghorn that he is hardy and strong, and this would be accounted for by the fact of the process of production—*i.e.*, amalgamation of White and Brown Leghorns. It is rather

difficult to understand why Pile Leghorns do not mature quite so early as either Whites or Browns. Close inbreeding for many generations may account for some lack of vitality, and for a tendency to take a longer time in which to come to maturity. The Pile Leghorn is said to be of a very domestic nature, not wild like the Black, probably to be accounted for by close confinement and frequent handling in the early days of the formation of the variety.

For some reason, it appears that the earliest productions of pullets were superior to those which were later bred, having reached an excellent size, while the present-day pullets are said to be somewhat inferior.

The breeder of Pile Leghorns has many obstacles to overcome. In the male, it is difficult to obtain pure-white breast and tail, rich, dark color on back and wing, pure orange-colored neck-hackle, and solid light-red wing-bay. In pullets, the difficulty is to get clear wings, and, when sufficient color has been obtained on the breast, the purity of the body-color is apt to have been impaired. Many Pile breeders resort to the double-mating system for producing their exhibition and breeding specimens, selecting dark-breasted, rose-winged hens for producing cockerels, and much lighter hens for pullet-breeding. After a few generations, the color in Pile Leghorns seems to lose its richness, and, at such a time, resort has to be made to a cross with the Brown.

A well-known English authority describes the Pile Leghorns as follows:

"A first-class cock should have a full-flowing neck-hackle, bright orange-red in color, deeper near the head than at the base, but not running to 'washiness' at the latter. Freedom from white or other striping is desirable throughout the hackle; but, on account of the black stripe in the hackle of one of its progenitors, it will be found a great difficulty to avoid, in obliterating this black, the natural evil of white appearing.

"The back from the neck to the saddle should be extremely deep claret or crimson-red in color—the darker the better—shading off, on the saddle itself, down to the tips of the saddle-hackle, to a lighter, brighter red, but not many shades lighter, lest the undesirable patchy, washy hackle result.

"The wing-bow should be similar to the color of the back, as deep and yet as 'glowing' as possible; whilst the wing-bar should be white, slightly streaked with chestnut. The wing-bay, or secondaries, are light red, somewhat similar in tint to the tips of the saddle-hackle.



From "Country Life in America"

A FLOCK OF SINGLE-COMB WHITE LEGHORNS ABOUT FOUR MONTHS OLD

They are all fed at four o'clock in the afternoon, and are accustomed to assemble a little before time

"The breast and under parts should be white or creamy white, perfectly free from ticks or spots of any color or description.

"The tail must be clear white, although it is rare to find a cockerel without at least a few ticks of black, and, in many of the best-colored cocks, one finds more or less on the sickles, near the root, a patch of black.

"An exhibition hen's hackle should be as nearly white as possible, although a slight lacing of light gold, almost imperceptible, is looked for; whilst the remainder of the plumage throughout, except breast, should be white or creamy white. The purer this white is, the better, and free from spots, ticks, or splashes.

"The breast should be a rich brown-red, even as possible, free from mottling, and the color should confine itself to the breast, and not encroach on the white surface of the wing.

"Of all the so-called minor varieties, Pile pullets are bred with the best combs, although, strange to say, cockerels are rarely first-class in this respect."

The following is credited to E. A. Lane, a well-known English Pile breeder, whose birds have achieved considerable success in the show-room:

"In mating Pile Leghorns for breeding exhibition birds, it is best to get a cock with dark, even color, good head points, and one that carries his tail fairly well back. By no means breed from a high-tailed bird. Mate with the above-described bird, for breeding cockerels, a dark-colored hen—one that has a good breast-color, and what is termed 'rose-wings'—*i. e.*, a little brown in color on the wings. The hen should also be large in size, as, from the hen, you always obtain size in the offspring, and from the cock, points.

"As regards the breeding of pullets, we like to mate a little lighter cockerel to a hen that has a good dark breast-color, but pure white on all other parts of its feathers, except neck-hackle, and that should be tinged with gold.

"Another good plan for breeding exhibition pullets is to use a hen that is on the light shade, rather than one too dark, as, if your stock is bred from a good strain, you very often get a good-colored pullet from such a mating, as breeders breed their pullets to come too dark on the wings if they are not careful, and such offspring are only fit for breeding cockerels—of course, providing that other points are correct.



FROM A PRIZE-WINNING PEN OF SINGLE-COMB WHITE LEGHORNS AT MADISON SQUARE GARDEN, NEW YORK, 1904

Bred and owned by E. G. Wyckoff, New York

"The appearance of the chickens when first hatched, and the way to indicate, as near as possible, those which will be of any use in the show-pen—the best-colored cockerels are those which show two stripes of color straight down the back. Pullets cannot be distinguished until they get their feathers. The cockerels will sometimes come brown on the breast with their first feathers, but will afterward clear with their adult plumage.

"I find the variety breeds very true to color, although now and again a brown chicken is produced. These are sometimes very useful for breeding from. In respect to their breeding true, we may mention that, out of the one breeding-pen, we produced the first, second, and third prize-winners, also silver medal, at the Dairy Show, 1895; first and second prizes at the Crystal Palace Show, 1895; and first at the Club Show, New York, 1895, besides numerous other prizes. These facts speak for the manner in which the variety breeds true to color.

"As regards their useful qualities, there is no breed which I consider such good layers in both cold and warm weather; either makes very little difference to them, if properly fed and attended to. We have a pen of this variety which laid all through a month or six weeks of frosty weather, two years ago. They continued to lay right into the spring time, only resting for a few days after they had laid most days for a month at a stretch. The chickens are extremely hardy and easy to rear. With these qualities, together with their beautiful plumage, they are much admired by those who keep them or see them."

If any of our Leghorn enthusiasts have an inherent love for surmounting difficulties, or overcoming obstacles which seem insurmountable, I recommend to their tender mercies the breeding of Pile Leghorns. To many, the production of a very few choice specimens of this variety, after several years of earnest effort, would be an object of extreme satisfaction and a "game worth the candle"; but the average breeder or fancier would not be able to expend the time or patience necessary to produce satisfactory results. To us, it must stand as a type of beauty, and its points of utility will be lost to all save those who are able to command monumental perseverance and dogged persistence.

DOMINIQUE LEGHORNS

Probably the least fancied of any Leghorn variety is the Dominique, or Blue-Barred. In England, this class of Leghorns is known as the Cuckoo or Cuckoo-Colored Leghorn, and they are credited with having been originated on the European Continent. It is said that they were bred in Denmark for a number of years before they first appeared in England. They were exhibited in England as early as January, 1885, and, since that time, have been shown there occasionally, but never have been bred nor fancied to any great extent. About the first-known record of the exhibition of Dominique Leghorns in continental Europe appears to have been also in 1885, although it is known that the birds were bred there for some years previous to that time.

It is barely possible that this variety originated in America, for it appears to have been bred in this country long enough previous to 1875 to allow of its admission to the American Standard of Excellence in that year. It is one of the few varieties of poultry that has been dropped from the Standard after once having been recognized. When or where

it was admitted to the Standard cannot be ascertained, but it appears as a Standard variety in all the editions of the American Standard of Excellence from 1875 to 1894, inclusive. After 1894, it was dropped, the breed being almost extinct.

There is often confusion in the minds of poultrymen from not being familiar with the distinction between Dominique Leghorns and American Dominiques. Many suppose these breeds to be identical, while there is really as much difference between the two as there is between the White Plymouth Rock and the Single-Comb White Leghorn. The Dominique Leghorn is a blue-barred Leghorn, with single comb and all the Leghorn characteristics, while the American Dominique has a medium-sized rose comb and the characteristics of the Plymouth Rock, except that they are slightly smaller, the standard weight being the same as for Wyandottes.

The Dominique Leghorn is the smallest member of the Leghorn family, and, in consequence, is said to mature at an extremely early age. They are said to have a hardihood which is remarkable, and good average Leghorn laying-powers.

In the breeding of Dominique Leghorns which would meet the Standard requirements there has been much difficulty. In the color, it has been difficult to produce a blue-black bar which will not run or shade into the white, and, in the male especially, off-colored feathers appear in the tail; usually white. In the female, the production of a satisfactory comb has been a difficult problem, it usually appearing with far too many points, and unevenly serrated. In the early days of the Barred Plymouth Rock there was the same difficulty, but this excellent breed has been bred for color and marking through so many generations and in such large numbers that the difficulty is not now found to such a great extent. Had the Dominique Leghorn been a popular variety, and bred as extensively as the Barred Rock, it is not to be doubted that many of the obstacles would have been overcome. However, the variety never was a popular one; is so little thought of to-day that it has been dropped from the Standard of Perfection, and, unless some enthusiastic breeders take up the subject and lay the foundation for a good strain of this variety, it bids fair to soon become simply a matter of ancient history.

Closely allied to the Dominique Leghorn is the Ancona, which, while not a Leghorn by name, is a Leghorn by nature, and cannot be anything else. The Ancona is far more popular than its Dominique sister. Anconas

were admitted to the American Standard of Perfection at the meeting of the American Poultry Association, held in Boston in January, 1898, and they still hold their place in the Standard.

The Ancona is sometimes called Mottled Leghorn, being black and white mottled. In England, there are also red and tricolored mottled Leghorns, and, during the years 1887, 1888, and 1889, it appears that the red mottles carried off a large proportion of the prizes in the "any-other-variety" classes there.

As there are practically no breeders in this country interested in the mottled classes, it is hardly desirable to treat of them further than to make brief mention of the fact that they belong to the "also-ran" class, so far as this country is concerned.

ROSE-COMB LEGHORNS

In general characteristics, aside from comb, the rose-combed varieties are very similar to those with single combs. In 1883, at Worcester, Mass., at the meeting of the American Poultry Association, which lasted from January 31st to February 2d, Rose-Comb White and Brown Leghorns were admitted to the Standard. We now have the Rose-Comb Buff variety, which has not yet been admitted, but, as may be seen by the illustrations accompanying this article, this variety has reached a very fair state of development, and the number of breeders and admirers is steadily increasing. At the present time, the American Rose-Comb White Leghorn Club is displaying signs of great activity. Their membership does not by any means include all of the breeders of Rose-Comb White Leghorns, but the members seem to take great pride in pushing their chosen variety well to the front. Of the Rose-Comb White, an enthusiast writes as follows to *The Farmers' Guide*:

"The Rose-Comb White Leghorns are little known, but are gaining in popularity very rapidly, as people learn their good qualities. As a farmer's breed, they cannot be excelled; they are good foragers where range is plenty, requiring very little feed or attention. They have low combs, that will not freeze in the coldest weather of this climate. They are unsurpassed for table use; sweet, close-grained meat, easily cleaned, and, while they will not bring quite so much per head on the market as heavier breeds, yet the difference in number of eggs laid will more than balance difference in price per pound.

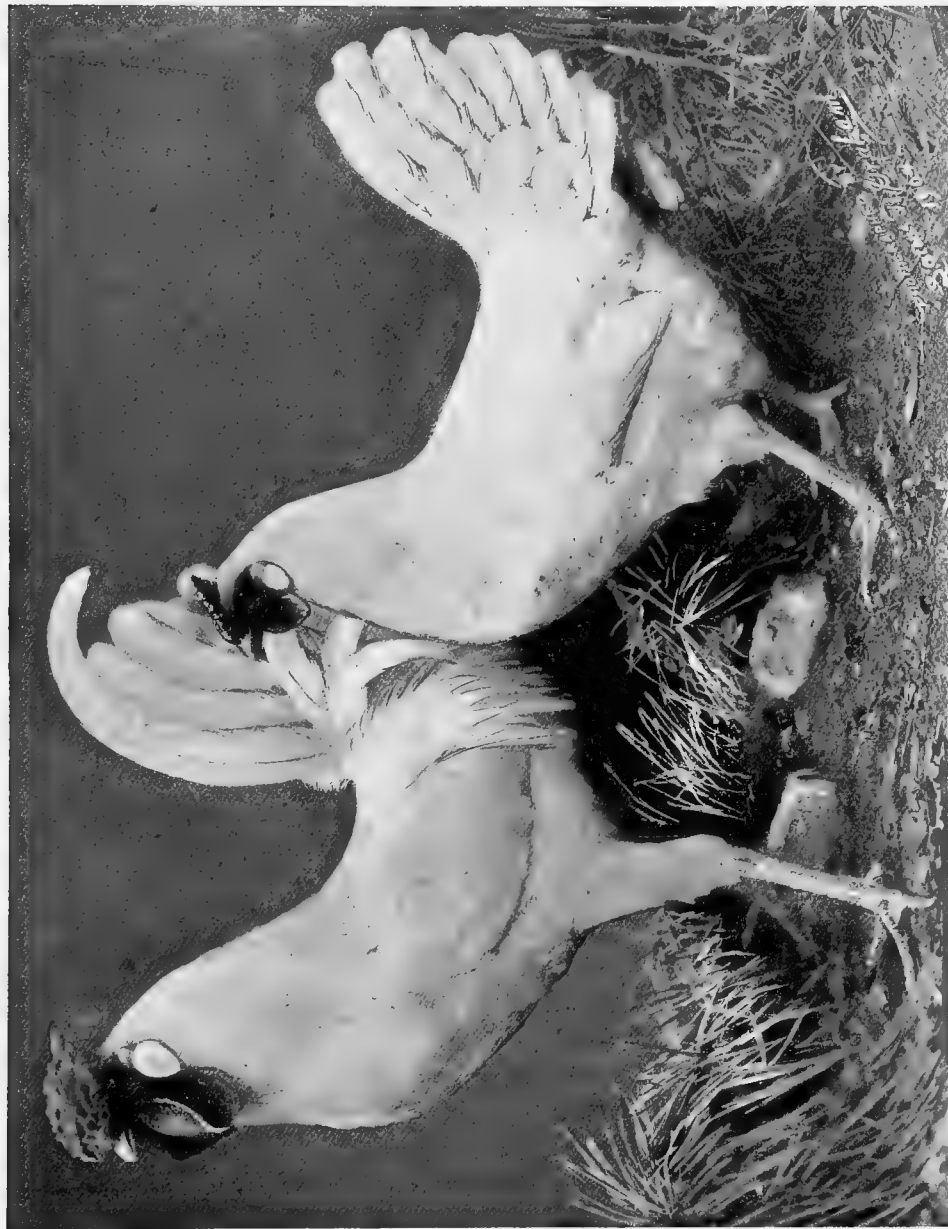
"From the fancier's points of view, there is no prettier chicken: low, red comb, true Leghorn shape, snow-white plumage. For village or town where they must be confined to small yards there are none of the breeds, large or small, that will stay in or thrive better. I keep them in yards that were made for Barred Plymouth Rocks, and have less trouble with their flying out than I did with the Rocks, and the amount of feed that I used for my Rocks will keep twice the number of Rose-Comb White Leghorns."

W. W. Babcock, of New York, Secretary of the American Leghorn Club, writes of the Rose-Comb Leghorns as follows:

"The origin and history dates back some forty years, as claimed by old fanciers. Their origin, it is claimed, was the result of the mating of White Leghorns with White Hamburgs, in order to produce a rose comb. The results, for many years, were poor with respect to comb, size, and legs, the comb being very wide and on the order of Red Caps, and, in most cases, when the bird was in full health, the comb would lop to one side and obstruct the sight; and it is also reported that white in the face was very prominent in many cases.

"In body, they were short, and favored the Hamburg shape, with very high tails. In legs and feet, very short and pale in color. They were bred along these lines until about fifteen years ago, when breeders began to realize their good qualities as winter layers, and, since that time, great advancement has been made. The question of small size has been one of the objections to the variety, and many breeders have spent much earnest effort in bringing them up to the present size, and we find to-day many flocks of Rose-Comb White Leghorns quite equal in size to the Single-Combs. I find, through my correspondence and travels, many breeders with yards numbering as high as two or three hundred, using them especially as winter layers. The matter of their being a poor table fowl is many times argued against them, and, as to this question, I wish to say that there is more meat in proportion to the bone in a Leghorn than in any other fowl grown. The expense of bringing a Leghorn from the shell to broiler size is only about one-half of what is required for other breeds, and can be accomplished in much less time; and, for the table, no fowl has any sweeter meat than a Leghorn, at one year. In fineness of color they are unequaled.

"As layers, the Rose-Comb White Leghorns are unsurpassed. A



A PAIR OF ROSE-COMB WHITE LEGHORNS FROM EXHIBITION STOCK
Prize-winners, Madison Square, New York, 1904. Bred and owned by W. W. Babcock, New York

pullet hatched in May, with proper food and runs, will lay in October, and, if properly housed and cared for, will continue her laying until the following June, and there is no question but that winter layers are the ones which have a balance on the right side of the ledger.

"The next advantage that comes to our notice is the large white eggs, which, it is undisputed, command the highest price in all markets.

"A word in regard to experience in housing Rose-Comb White Leghorns: I have always endeavored, if possible, to let my birds roost in trees, or occupy quarters where they can get plenty of air. In many instances, I have allowed them to roost in trees until the middle of December. The advantages of the Rose-Comb over the Single-Comb Leghorns are that the former are not bothered with frosted combs, and they can, therefore, be kept in cold climates with better results.

"A majority of the breeders of Rose-Comb White Leghorns are in the West and in Canada. The Canadian breeders claim their advantage is in a comb which enables them to stand the long, cold winters of that climate. The Western breeders are booming them through the West, especially through the Northwest, and are making a great effort on size. In looking over my correspondence, I find letters from more than four hundred Rose-Comb White Leghorn breeders west of the Mississippi River. I find, in my files, correspondence from over twelve hundred breeders of Rose-Comb White Leghorns, and it is estimated that there are over twenty-five hundred breeders of Rose-Comb White Leghorns in America. In comparing the show records of New York, Boston, and Chicago, and, in fact, all the shows, the exhibits of this variety are many times double in numbers those of a few years ago.

"The model type of Rose-Comb White Leghorns may be described as follows: The first question is size and shape: the body of medium length, slim in statue, with a medium-length back, rounding from hackle to tail, with a good, deep, rounding breast, with plenty of fluff, with a good rounding appearance; wings carried close and neatly folded, with good-sized tail, carried well up and at an angle of about forty-five degrees. Neck should be long, with a well-arched hackle flowing down on the back and shoulders, in order to form a good concave for the back. The next most important feature is pure white, for which all breeders are making a great effort.

"The head and comb: The head short, with a good yellow beak, eyes of a bright red. Face, red, and free from wrinkles and white. Lobes

of medium size, and pure white. Comb of medium size, rounding in front, and not over two inches wide on top in the widest place, tapering back to a well-rounded spike; spike running back with an upward tendency. Comb evenly set upon the head, and well up from the head to avoid the Wyandotte appearance; top comparatively flat, covered with small points, or corrugations. Care should be taken that corrugations are small and comb set well enough on the head to prevent the obstructing of the sight. Many breeders contend that the spike should have a downward appearance. In such case, the comb usually develops into a Wyandotte comb. A small, narrow comb has the preference with most breeders. Legs and toes: thighs of medium length, and slender; shanks long between joints, and deep yellow in color. Toes to compare with legs in size, and yellow in color. Some of the undesirable features are as follows: Large, coarse comb, lopping to one side, or obstructing sight; white in face; red in lobes; absence of spike; long body, without concave; tail carried too high; scantiness of breast. These few features are liable to follow in-breeding.

"With proper breeding and mating, Rose-Comb White Leghorns promise in the future to equal in number and quality those characteristics of their Single-Comb brothers."

What has been heretofore said with reference to the Rose-Comb White Leghorn is largely applicable to the Brown and Buff, except as to color. In general, it might be said that up to the present time the Rose-Comb White leads the other two in shape, although the latter two varieties will undoubtedly crowd it in that respect from now on. A leading breeder of Rose-Comb Browns is W. W. Kulp, of Pennsylvania, who breeds also several other varieties of fowls. With reference to the Rose-Comb Browns, Mr. Kulp is quoted as follows:

"As all fowls are kept for income, and the Leghorn's specialty is eggs, I will write a little about this before I take up form and feathers. I am sorry to say that I have not many egg records. That the Rose-Comb Leghorns are good layers I know, for I have fed them and gathered the eggs, winter and summer, for sixteen years, and I also know that a Leghorn egg costs only about one-half what an egg from a large breed does. I do not need an account to tell me whether a pen is doing well, if I gather the eggs the year around.

"Of late years, I produce breeders and eggs for hatching altogether, and do not feed for eggs during the fall and winter, preferring to have the

hens lay during the hatching season and save their vitality for these eggs. My early pullets, hatched the latter part of February and early in March, begin laying the latter part of July and in August. From then on the pullets lay their eggs where they are raised, for I do not move them into their breeding yards until from about December 25th to 30th. If they are laying then, the moving will stop them for a couple of weeks. If a record is wanted, they should be housed before they start to lay, and forced right along.

"I put six Rose-Comb pullets in a building one year on January 5th, when the first one laid. The building was ten by eighteen feet, with no yard. I did not let them out for five months and twenty-five days, and in that time I gathered just 600 eggs. I was young at the business then, and did not feed to make a record at all. I just fed them well. I know I could do much better now. During this past January, I wanted some eggs, and in seven days made them increase their yield nearly 500 per cent.

"Last summer, I had a pen of twenty-one Rose-Comb hens running with a few pullets. In the next house were thirteen Barred Rock pullets. I found that the thirteen Rocks required almost the same amount of food the twenty-one Leghorns did, and, in a ten-days' count, the Leghorns laid five more than twice as many eggs as did the Rocks, and my Rocks are good layers, too. To sell eggs at the price I do, I must have good

layers. We see by the above test that a Leghorn egg costs less than one-half as much as a Rock egg. This was in June. In April, the Rocks would have laid more. When you come down to facts, it seems to be as C. E. Howell says,



PRIZE ROSE-COMB BROWN LEGHORN HEN
From the yards of W. W. Kulp, Pennsylvania

'A Leghorn is so profitable as a layer that you can afford to give or throw away the body.' But the Leghorns are increasing in weight, and, when the hens dress four pounds each, the market value of the carcass will be no mean part of the Leghorn as a utility fowl.



PRIZE ROSE-COMB BROWN LEGHORN COCK
From the yards of W. W. Kulp, Pennsylvania

"One thing more I feel sure of, and that is, the larger the bird, the more it will eat, and the more each egg will cost. The period from egg to maturity will also be lengthened. It cannot be otherwise. I favor and try to breed so that the cockerels, when developed, will weigh five pounds, and the pullets four pounds each. I have several five-pound Rose-Comb cockerels and four-pound pullets, and they are large, making a fine appearance. To get these

weights, you must pay attention to width of back. Part of the weight must be in width. I have seen many Single-Comb Brown Leghorns that were tall enough to weigh five pounds, but they had only the width of a three-pound cockerel. A Leghorn pullet weighing three pounds is a fair-sized bird. If below three pounds, when they are well developed, I would call them too small. A three-pound pullet will, at two years, make a four-pound hen.

"In the Brown Leghorn, we have combined grace, beauty, and usefulness to a higher degree than in any other breed. I am well aware that all breeds are beautiful, when bred close to perfection. I cannot look at the fine specimens shown at New York without wanting to breed them all, but, in the Browns, we have so much in so little.

"The Rose-Comb Browns may not be quite as showy as the Single-Comb Browns, because of their low combs, but the advantage of the low, fleshy comb has made them popular in the northern States, although they are also bred in the South, perhaps to as great an extent proportionately as in the North, considering all breeds North and South."

By reading the comments of different breeders who look at breeds

from their own point of view, we can readily see that, unless a breeder has more than one variety, he is very apt to be prejudiced in favor of his own hobby. In the case of Mr. Kulp, we have the testimony of one who breeds several varieties, and who gives the Leghorn the credit of being the most profitable.

As has been previously mentioned in this article, the Rose-Comb Buff Leghorns have not as yet been admitted to the American Standard of Perfection, but their popularity is on the increase, and they are now bred in considerable numbers in Pennsylvania, Michigan, Ohio, New York, Connecticut, and many other States, which fact, together with the rapid strides that are being taken in the development of specimens of the breed, which are well along toward an ideal type, must, in the near future, demand recognition from the American Poultry Association and admission to the Standard of Perfection.

In conclusion, I may say, in general, that Leghorns are Leghorns, and each variety has its own special field and its own admirers. In the humble opinion of the writer, as previously emphasized, there is less difference in the varieties of the breed than in the strains of the varieties. Select whichever variety you may, and get the best strain of that variety to be had; then, by a process of selection of the best and weeding out of the inferior, produce a strain of your own that is equal to the best, and success must attend your efforts.

CARE AND MANAGEMENT

Success with almost any breed of fowl depends largely upon the care and management given them. The temperament and characteristics common to the Leghorn require more than passing notice in this chapter. As a successful breeder of White Leghorns for many years, Professor James E. Rice, of the Department of Poultry Husbandry at Cornell University, has the following to say about the care and management of Leghorns:

"The fact that Leghorns are more active than many other breeds, that they have large combs, and that they originated in a mild climate, has given rise to the notion that they require radically different treatment from most fowls. This is true in some respects, but the distinction is often a fine one, and, for the most part, is more a theory than a fact. In other words, a house that is built warm enough to give the best results with

Plymouth Rocks or Wyandottes should also give satisfactory returns with Leghorns. The fact that they are active tends somewhat to offset their mild-climate feathering and their exposed combs. Proof of this is found in the fact that this breed, in all its varieties, is kept successfully in very cold countries in the same, or similar, houses with many other breeds, and, under these conditions, is growing in popularity.

“Leghorns like to roost high, but it does not follow necessarily that they must have higher perches than most other breeds. All fowls seem to prefer to fly, or to drop from their perches stiff-legged, rather than to walk down a prepared incline. This pounding on the floor causes corns and bumble-foot, which is a serious trouble even with Leghorns. Therefore, their perches should be as low as for other breeds. High fences are necessary to confine Leghorns. How high depends on the way they are brought up. If they have been taught to scale fences from chickenhood to maturity, by permitting them to fly over low fences made a little higher each time as fast as they have learned the preceding lesson, they will become adepts at going over a ten-foot fence, which, if they cannot fly, they can, at least, climb, by using toes, bill, and wings. If, on the other hand, they are given a fence five to six feet high at the start, they will remain peaceable through habit, because they do not know any other liberty.

“While Leghorns are called non-sitters, I have never seen a strain that did not have individuals which became broody, often persistently so. Every Leghorn ranch should have a place provided in which to place broody hens as soon as they show the first signs. This should be either a roomy open coop, with slat bottom, on the wall in each pen, or a separate pen for this purpose. In any case, plenty of nourishing food, grit, and water should be supplied.

“In regard to feeding Leghorns and other breeds, there is, perhaps, some difference in requirements. I believe that there is less danger in overfeeding Leghorns than there is with many of the heavier breeds. At least that has been my experience. Their tendency is to put their surplus food into eggs, rather than into flesh or fat. While excessive feeding does not so often result in excessive fatness, it does frequently cause much ovarian trouble, particularly during the close of the laying season. The danger with Leghorns, however, is more apt to come from overstimulation through feeding excessive quantities of meat and other protein



WHITE LEGHORN COCK

Photograph by A. Radclyffe Dugmore

food than from feeding too much corn, or other fattening foods. In brief, the danger in feeding Leghorns is more apt to be over-stimulation, while with the heavy breeds it is overfatness. Rations, therefore, should be varied accordingly.

"A more important difference between Leghorns and the so-called meat or general purpose breeds, which must be taken into account, is their remarkable precocity. Under heavy feeding, to produce rapid growth, they

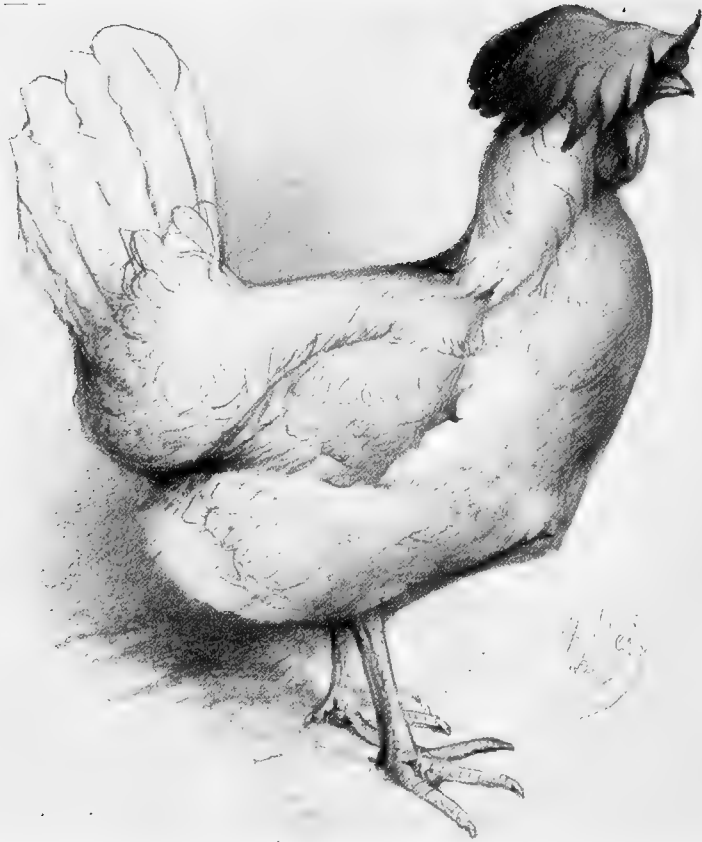


Photograph by courtesy of Thomas Peer

BUFF LEGHORN PULLET

Special prize at New York, 1903. Bred and owned at Fairfield Poultry Farm, New Jersey

are stimulated to lay prematurely as pullets. As a result, they lay many small eggs, and are apt to be checked in their growth, and perhaps injured for subsequent production. I have known White Leghorn pullets to lay when four months and twenty-four days old. There are reported records of even earlier laying. In order to guard against this precocity, all meat and soft food should be dropped from the ration after the pullets begin to throw their combs, at about three to four months old. They should be fed liberally, however, on a good variety of mixed whole grain, and should have abundant range.



WHITE LEGHORN TWENTY YEARS AGO

"A point which should be considered in feeding White Leghorns for exhibition (which applies as well to all white-feathered, yellow-skinned fowls) is the influence of yellow corn and green food, such as clover and alfalfa, on the color of the plumage and the shanks. Less yellow corn and clover, and more wheat, oats, buckwheat, etc., should be fed where pure whiteness is required. Notwithstanding the marked influence that certain foods have upon the color of shanks and feather, their influence may be considered only temporary, and we must depend upon careful breeding and selection for permanent results in attempting to fix colors. No amount of careful feeding can make a brassy fowl snow-white or a pure-white fowl brassy, but creamy plumage can be made white and white plumage creamy. One can tell at a glance white Leghorn chickens that

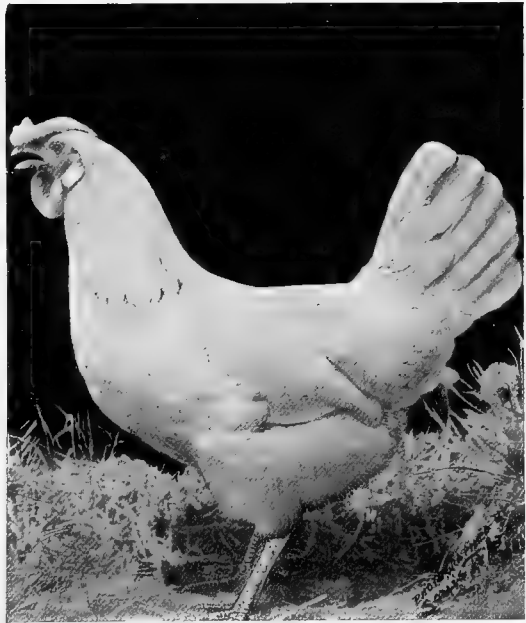
have been raised largely on yellow corn on a free-grass run, from chickens of the same strain raised without corn and a liberal supply of green food.

"The precocity of the Leghorn calls for another difference in treatment from that accorded most breeds. The sexes must be separated early and chickens of different ages must not be permitted to run together — certainly not to be confined together. What to do with the young Leghorn males becomes a considerable problem on most large poultry farms. Every Leghorn raiser should have chickens of different ages separated until they are about three months old, at least. In other words, he should have a 'maids' paradise' for the pullets and a 'bachelors' hall' for the cockerels. They should be as widely separated as possible. If this separation is made when the sexes can first be distinguished, there is much less fighting among the cockerels.

"Leghorn eggs have the advantage of superior hatchability, as compared with dark-shelled eggs. Their treatment in incubators, however, is not essentially different from that of other eggs.

"Leghorn chickens are remarkably intelligent and self-reliant. This is particularly noticeable in their readiness to go under the hover for warmth, or to seek cover from danger, and the readiness with which they learn to eat and drink and adapt themselves to artificial conditions generally.

"Leghorns are often unjustly condemned because of their tendency to grow wing-feathers rapidly. Many breeders, with best intent, clip the wings on the assumption that the feathers are growing so fast that they sap the system. This assumption is wrong, and is a great injustice to the



Photograph by L. P. Graham

FROM A PRIZE-WINNING PEN OF SINGLE-COMB BUFF
LEGHORNS AT MADISON SQUARE GARDEN,
NEW YORK, 1904

Bred and owned by E. G. Wyckoff, New York

chicken. The feeder, not the chicken, is to blame. Overdeveloped wings are a sure indication that the chickens have suffered a check in body growth. This may be due to weak vitality inherited from the parents, to the food, or to the temperature of the brooder. More often it is the latter. Too cold or badly ventilated brooders are responsible for a large part of chicken mortality. The principle involved is that when a young animal suffers misuse, the parts that are most necessary to prolong life suffer least. Therefore, the wings, the bill, and the feet continue to grow, and, by comparison with other parts of the dwarfed body, appear much exaggerated. It is a fact which I think will be acknowledged by poultrymen generally, that, other conditions being equal, Leghorn chickens are easy to raise. But, as with all breeds, much depends upon the strain and previous care."

THE ANCONA*



HIS is one of the Mediterranean breeds. It is simply the common fowl of Ancona. It is not bred to any particular standard there, either in form or color, but the black and white, mottled or spangled, are said to be preferred. It much resembles in general appearance that known as the Minorca, but is not quite so large. The eggs are smaller. It is very prolific, hardy, wild in its habits, flies with ease and rapidity, is a good forager, and, of its kind, a useful fowl. So far as it has hitherto been tried, it is more than equaled by other varieties.

Mr. Weir says it has been known in England for about half a century, and as yet has never succeeded in pushing its way to the front rank, though some are now endeavoring to gain for it that position. There were sixteen exhibited in 1851 and but one in 1852. Two or three pens were shown at Baker Street in 1853, some the property of John Taylor and others of Mr. Simons; these were principally black and white, the last being black with white feather-tips. They were admired by few, others being considered superior, particularly the Andalusian, which appeared at the same shows.

Some were exhibited at Birmingham in 1861. The *Journal of Horticulture*, of January 14, 1862, thus speaks of the breed: "The Ancona are seldom seen and very little admired. They are birds with very small bodies, black and white patchy plumage, enormously large combs and gills, the latter resting on the ground when they eat. They are said to be very good layers." Rather less than thirty years ago, more were imported and exhibited, but failed to attract any particular notice. However, in 1898, there was a fresh arrival, when, like most new breeds or neglected old ones revived, the poultry press became strong in their praise and their marvelous qualities of egg-production. They are hardy and inter-

* While Anconas are kept in this country, they are by no means common. They are considered a very good fowl, having the same shape of the male and female Leghorn. Their plumage is an evenly mottled broken black and white. The shanks and toes are usually yellow or yellow mottled with black.—EDITOR.



THE MODERN ANCONA
Black-and-white-spangled Italian fowl

Drawn from life by Mr. Weir

esting. True, they are small, but already a cross is intimated as likely, if not already used, to improve them. Under the auspices of Mrs. Bourlay and some others, a club has been formed. They are to be pushed into notice, if not into profitable recognition. Already we are teeming with new breeds and a vast number of varieties of fowls. Therefore, it may

be reasonably asked on what grounds does the Ancona go in for "honors" against such as the Andalusian, the Minorca, and the Leghorn? Is it a better, or even as good? Time tries all things, and so it will be with the Ancona; but one would have thought that half a century was sufficient for the poultry world to judge of its merits, whatever they may be, and the reasons known why they have hitherto not met with much appreciation.

Mr. Weir says: "For my own part, from what I have seen of the Anconas in England, during the last half-century, I am not much possessed in their favor. I do not think that they are a sufficiently distinct breed and of such value as to warrant separate classes being made for them, unless at some of our larger poultry shows."

Consul M. C. Gurney, of Marseilles, late of Cherbourg, wrote Mr. Weir, under date of June 8, 1898, in answer to his inquiries regarding the Ancona fowl, as follows: "With regard to the Ancona, and my opinion of them, I think they are a color variety of the common barn-yard Italian fowl. This has been my opinion regarding them for some years. I have seen no reason as yet to modify it. Some black Italian fowls, with more or less of white-tipped feathers in the wings, tail, and neck-hackle, are to be found on all sides, but more especially in the Tuscany and Ancona Provinces.

"From the latter port, a pen of the latter were exported to England, and called Anconas; they were bred by constant selection to a fairly even-mottled black and white, but even now many come almost black, and some with red-and-gold hackles. Vice-Consul Tomassini writes me from Ancona that the local name given to the black-and-white fowl (that is, the black with more or less white in wing and neck) is the 'Marchegiana' fowl—the name of the district near Ancona where they prevail; but all the cockerels have red or golden necks or saddle, though the tails are almost always pure black.

"The ordinary colored Ancona fowl is similar to the common Italian fowl seen everywhere else in Italy, and has a coat of many colors—black, white, and almost every shade of brown, the browns mostly with yellow shanks, pure yellow, or with a greenish hue.

"In Tuscany, especially in the upper valleys of the Arno (in the Florentine hills), the pure blacks are the most numerous. Their local name is 'Valdarno,' typical birds of the Italian shape, but their shanks are never yellow, always bluish-gray. The black fowls in all parts of Italy have, as a general rule, dark shanks. The browns and whites

have more often yellow shanks. The first Italians exported to America from Leghorn, and these, called 'Leghorns,' are similar in type to all the color varieties of the Italian fowl.

"They are smaller (though I have seen some fine specimens among the earliest hatched, but the climate favors early maturity—thus small size). They are very prolific—extraordinary layers; hence, British poultry



MODERN ANCONA
Black-and-white-spangled Italian fowl

rearers wanting eggs will do well to import the Italian fowl pure, which is a far superior fowl to the Gamey-legged Leghorn too often seen in England. Marseilles imports Italian fowls, Germany and Belgium also, in very large quantities.

"I had a trio of the local Marchegiana (or Ancona) fowls sent me from Ancona — black hens with a little white on their wings, black cock with black tail and red-brown neck and saddle-hackles. Of the first eight chickens hatched from their eggs, three are brown, one is brown-red, two chestnut-brown, one black with a touch of white, and one black.

"Now, Mr. Tomassini assured me that the cock and hens sent to me were exactly similar to those sent to J. Davis, who is selling eggs from his pens of imported Anconas, and has given a cup for a local show, for which birds hatched from his hens' eggs only may compete."

Here is the whole gist of the sudden rising of the Ancona fowl in the poultry horizon. It appears that it is not so much due to its distinctness, or the purity of breed both in form and color, as to its being a fresh and a commercial speculation—not but that it may be a good fowl of its kind for certain purposes; but if so, why has it taken so many years to discover this? Of the Ancona little more need be said, further than that, if they are



Photograph by William Radford

PRIZE MINORCA COCKEREL

Owned by J. Haywood, England

of various colors, then why should any one having a fancy to keep them be tied down to breeding them all to one color—or that of black-and-white only. Different people have different ideas, and some may like brown better than black; therefore it does seem rather arbitrary that any one keeping the Anconas shall not be entitled to show and win prizes unless



BLACK MINORCA PULLET
An English type

Drawn from life by Mr. West

they are black-and-white. In England, it is not uncommon to see prize Ancona cocks with nearly white feathers in their tails, when, if rightly feathered, they should certainly be black with white spangles. It is in this way that most of our 'utility' fowls are ruined, and it is to be hoped that, whatever good qualities the Ancona possesses, it may not be sacrificed to freaks of fancy and fashion

The Ancona has been admitted to the American Standard of Perfection, in which it says of the "shape of male or female—the same as Leghorns." And this is much the general rule, though some are shorter in body, and rounder in form, with a more sturdy make. It also says "Wattles and ear-lobes—wattles red, ear-lobes white." With the latter Mr. Weir does not agree; a white ear-lobe on a black-and-white does not show to advantage, besides which, it is not the right color to harmonize with a yellow beak, shanks, and feet. Nor is it correct with other birds, such as the Leghorn, which, when pure yellow in the shanks and feet, has a light primrose-tinted ear-lobe, and this on the black-and-white Ancona tells with beautiful effect. Mr. Weir says: "I have seen many such, and greatly prefer them to the white, which I do not consider the right color. Again, the proper color of the shanks and feet is yellow: we have the authority of Mr. Gurney, who knows and has kept the breed, and many others, and I, moreover, look on the yellow black-mottled shanks as foul markings; the feather colors being black with white tips, it is 'a black silver-spangled.' In the same way, the silver black-spangled Hamburg, or the golden black-spangled Hamburg, it might just as well be said, should have spotted shanks, instead of whole colored; nor is the appearance of the former at all in favor of showing the silver spangling to advantage, nor can it be proper that either is admissible—only one can be right, and I am entirely in favor of the bright and clear yellow.

"Already the breed is said to be improved by crossing with the Game-fowl; of this, however, there is no indication. The Ancona has a large arc-shaped comb, high in the center, while that of the Game is long, and rises equally toward the lobe at the back of the head, and so persistent is this form that many of the Silver Dorkings that were originally produced by a cross with Lord Hill's Duckwing Silver Game, and 'the Game,' have bright-red ear-lobes. Also it is said to have been crossed with the White Leghorn. This, if so, can scarcely be a cross, the Leghorn, for all practical purposes, being the same breed—that is, like the Ancona, one of the smaller kinds of the Italian fowls; and, indeed, having seen the Anconas exhibited nearly fifty years ago, I am firm in the belief that those of to-day are entitled to be called pure as much as any of the former, be they Minorca, Leghorn, or Ancona.

"The United States Consul at Belgium reported to his government, in 1893, the following, which appeared in the *American Fancier*, December

16, 1893: A company has been formed for egg-production, in the Province of Liège, called the 'Société Belge-Italienne,' for the purpose of importing hens from Italy which would lay throughout the winter. This company does a large business. It should be noted that the Italian fowls are chosen in preference to the English; they are shipped at Padua. In the transit, the mortality is only one per thousand. On their arrival, they are transferred to wooden cages, and in less than two hours are on their way to the farms of Belgium. The coarsest of the cross-breeds, which are cheapest, and the Italian pure breed with yellow shanks, are extra choice. Altogether, the report is most instructive, and is well worthy of perusal, going far to show how much better they do things on the Continent, where these same Italian fowls are imported in quantity, while we, by private enterprise, get 'a pen or two,' boom them with an asserted superiority over all other breeds, establish a club, offer prizes, and then, as a commercial speculation, it pays—while it is a speculation perfectly open to any one or more of the public to import such at a cheap rate by the thousand, or on the same lines as is done in Belgium. But there should be little or no surprise at this, for, as to poultry rearing, traffic, and management in England, we have scarcely any organization whatever; nor, under the present want of system, does there seem to be any chance of improvement as a commercial product."

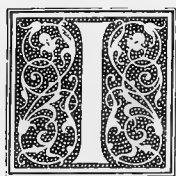


From a photograph by Charles Reid

GROUP OF ORDINARY MINORCA FOWLS, WITH COCK'S COMB
FAR TOO LARGE FOR COMFORT

THE MINORCA

DR. C. J. ANDRUSS,* New York



QUOTE first from the description of the English Minorca, by Mr. Weir: "Why these fowls are called Minorcas is one of the mysteries which are so abundant in the poultry fancy. The breed has been known in this country for considerably more than half a century as the Black Spanish, sometimes as the red-faced Black Spanish, or Portugal fowl. As non-incubating, it was a favorite in Cornwall, Devonshire, Surrey, Sussex, and generally in the southern counties, for its excellence in egg-production. As a rule, they are shorter in both body and shanks than their white-faced brethren, the combs of the cocks larger, and much stouter and

* This chapter has been written by Dr. C. J. Andruss, ex-president of the American Black Minorca Club, one of the best-known fanciers of this breed in this country. The American Standard recognizes both the Black and White Minorcas. Standard weights for each are as follows: Cock, eight pounds; hen, six and one-half pounds; cockerel, six and one-half pounds; and pullet, five and one-half pounds.—EDITOR.

thicker in the base, while those of the hens were much larger. Such was the case with this variety forty years ago, but much of this overgrowth has now been avoided, and the quality of the combs of both cocks



Drawn from life by Mr. Weir

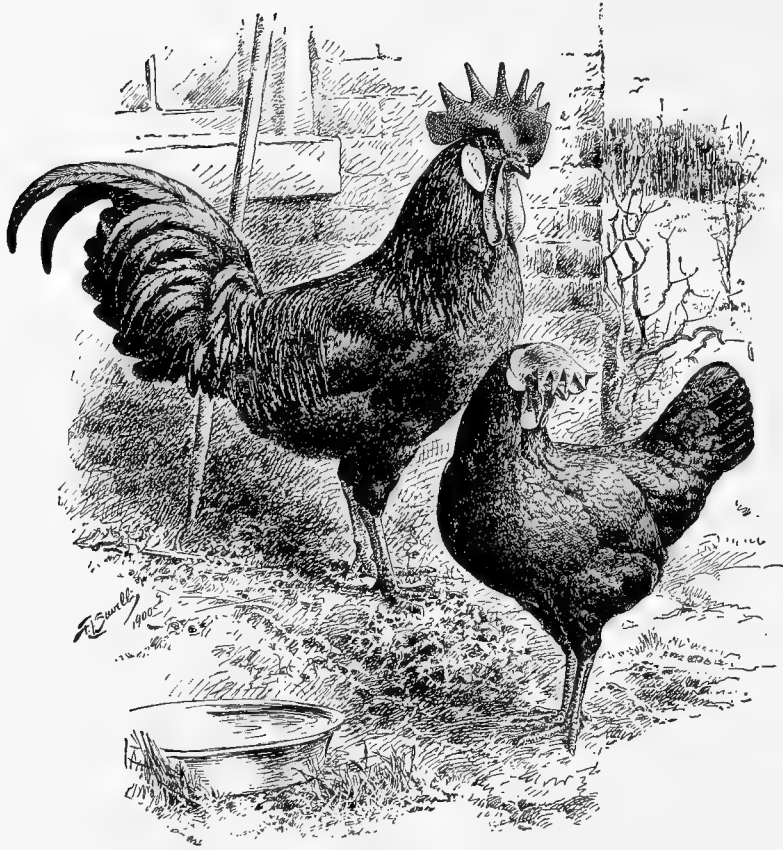
MINORCA COCK OF ORDINARY FORM
As seen in England

and hens considerably improved. At one time, it was thought that the comb of the former could not be too large, if upright, though thick and ponderously heavy, with immense, widely divergent spikes. Besides the absurdity of such extremes in comb and wattle development, the birds were not only more likely to suffer from frost-bite, but so much was this the case that, after the show season, the breeding stock was dubbed completely. Even now the Standard might be altered with advantage to utility, and a less-sized comb be considered as proportionate and sufficient indication of the purity of the breed.

"The Minorca is an excellent town and suburban fowl, and, when properly attended to, bears confinement in small runs remarkably well. If provided with grit and plenty of green food, they prove most prolific

layers of large, white eggs, frequently throughout the winter months, if well fed and kept in a warm and sheltered position." Mr. Weir also says, "That, as table fowls, they are but second-rate, though the flesh, fat, and skin are white, yet the first, though fine in texture and short in fiber, is dry ; but, when heavily fattened, and not too young, they are better than many others that are more pretentious in this particular direction. For some time past it has been an open secret that various crosses have been introduced for the purpose of gaining a larger-size bird. It has been freely admitted that the Black Orpington and the pure-bred Langshan have blended their blood with that of the Minorca. Certainly, there appears to be more than a degree of truth in the statement when it is found that the shell hues of the eggs are not of that snowy whiteness that at one time was so well known as one of their characteristics, and that but a very short time since. It is, however, a mistake to cross pure breeds that have already achieved a high reputation for a particular quality, such as that of the Minorca, the more so when the cross is a sitting variety allied to one that is not, to say nothing of the color-stained eggs."

Reviewing Mr. Weir's description of the Minorca, as here quoted, we come to the inevitable conclusion that it does not very well fit the American-bred Minorca. Instead of being shorter in both body and shanks than the White-faced Black Spanish, the Minorca is a longer and larger bird in every way. It is, in fact, a general complaint at the best shows that the coops furnished are both too small and too low to accommodate the male birds of this breed. The combs of both sexes have been bred proportionate to the bird. The present size renders the fowls much more comfortable than when encumbered with the immense combs which were formerly so eagerly sought. The old form made it necessary to keep the birds in artificially heated winter quarters or deform the breeding stock by dubbing the comb, as Mr. Weir states was at one time done by the English breeders. The purity of the breed may be as certainly indicated by the comb of medium and comfortable size as by the abnormally large combs, which I trust have been discarded for all time to come. It has frequently been claimed that the laying qualities were indicated by the size of the comb more surely than by any other distinguishing feature of the breed ; but my experience has been that the hen with a long, deep, angular body, with a comb of small or medium size, will be found much more prolific than the hen with a comb so large that she is well-nigh blinded by it.



Drawn from life by F. L. Sewell

BLACK MINORCA COCK AND HEN

Winners at New York show in 1900. Bred and owned by Santee and Andrus, New York

The Minorca has become a popular fowl in all sections of this country, and has made its way solely on its merits. They are not only very prolific layers, but the eggs are pure white, very large, frequently running from six to eight to the pound. They make a very desirable fowl for a small run, as well as for the farmer who can give them abundant room. They bear confinement quietly and profitably, if given proper food and care. In fact, my experience has been that the most profitable flock of Minorcas is one kept in a run where about ten birds are given a yard of 10 by 140 feet, with suitable food and care. With a six-foot fence, one always knows where his fowls are.

Their great beauty is not to be overlooked. In their glossy, green-black

plumage, in contrast with the white ear-lobes and bright-red combs, they have a combination which makes a most pleasing and attractive display, especially if given the added attraction of a well-kept lawn.

I cannot fully agree with Mr. Weir as to the value of the Minorca as a table-fowl. When well kept, so as to be in proper condition for the table at all, their flesh is sweet, juicy, and abundant. The objection most frequently heard is the reference to the black legs. This is no fault.

Possibly, as Mr. Weir suggests, now and then some unscrupulous breeder may have crossed in the Black Orpington or the Langshan to increase the size of his birds, but it is certain that such a course has been a disaster to him, as it surely ought to have been. There is a general demand for large Minorcas, but not for mongrels that may somewhat resemble them. The Minorca is susceptible of increased size of body, as well as decreased size of comb, by careful selection, breeding, proper feeding, etc. At the same time, keep the stock absolutely pure from contamination by crossing with any other breed. It is an open question, however, whether the craze for large size is not unwise. Some other more valuable qualities may be sacrificed to obtain the large body. It is a fact that the typical bird is of the medium size, and invariably is the most prolific and the best breeder. Although I have had cocks weighing eleven pounds, and hens nine pounds, I have ceased to look upon such fowls as being the desirable ones in the breeding-pens. I place the greatest confidence in and dependence on the birds of medium size. These are the ones which hold the true type of the breed and have the stamina to give results as breeders of strong, healthy stock. Besides, they are invariably the best layers. The present standard weights of eight pounds for cock and six and one-half pounds for hen are conservative and fair. They tend to better results in perpetuating the useful qualities of the breed than can be obtained by breeding for extreme size.

Minorca chicks are quite hardy, and remarkably rapid in growth after they once get a favorable start. They will attain to marketable size more quickly than the larger breeds with the same feed and care. If the Minorca is kept in its purity, and the individuals selected because of their persistent laying qualities, as well as for exhibition points, there is a yet more useful future awaiting the breed, not only with the fancier, but also with the utility breeder, who requires but a few birds to supply

eggs and meat for his family needs, and also for the man who produces eggs in large quantities for market. The good qualities of the Black Minorca are fully duplicated in the White variety, which has fully proven that it has a place, and is being bred in increasingly large numbers.

WHITE MINORCA *

The true origin of the White Minorca is very much in doubt; some believe that they originally came from the Island of Minorca, situated in the Mediterranean Sea. Others contend that they are a variety of the Spanish. About twenty years ago, a variety of Spanish known as Red-faced White Spanish was in existence, and it is thought the White Minorcas are derived from them. The White Minorca was first introduced into this country by the late Francis A. Mortimer, of Pennsylvania, about 1885. For the last few years, they have been shown in great numbers in the different show-rooms of the country, and people are beginning to become acquainted with the merits of this commendable breed.

The White Minorca has a large body, and stands well up on its legs; it has a broad chest and a long, flat back. The Standard requires the tail to be carried upright, but breeders generally prefer having it carried well back. The body of the male is long, square in front, tapering toward the rear. The thighs are stout; shanks medium in length, stout in bone, and pinkish-white in color; the comb is single, large, perfectly straight, evenly serrated, and extending well back over the head. Wattles are thin and pendulous, and correspond with the size of the comb; ear-lobes are pure white. The general appearance of the female in body is the same as that of the male, rather long, broad and deep. Her comb is single, large, and drooping to one side. The color of the White Minorca must be white throughout; feathers other than white disqualify. The comb, face, and wattles are a bright red, showing no white in the face. The eyes are hazel or red.

Referring to mating for exhibition and utility, F. B. Zimmer, of New York, says: "If the beginner were to ask which of the above methods to adopt, without a second's thought I would answer, mate for exhibition, or to produce specimens just as near Standard requirements as it is possible to get, taking it for granted that in so doing he would not neglect or over-

*The facts presented herewith relative to the White Minorcas were furnished by William Sapper, of Pennsylvania, the secretary of the American White Minorca Club.
—EDITOR.

look any of the qualities for which this grand breed is noted, such as egg-production or pure color, for some other quality alone—for instance, comb. In other words, the breeder should “ride no hobby” except the one that produces the all-round birds. We understand there could be two sorts of breeders, or rather breeders of different sorts of White Minorcas, but I can see no sense in having the two sorts, as those bred nearest Standard requirements can, and should, combine all the desirable qualities of the breed. The one sort, who claim they want them only for their large and numerous eggs and their large carcasses, could, if they desired, ignore the size and shape of comb and lobe and the spotless white plumage, and breed birds in consequence that would disgrace the name they bear, and, in the



Photograph by Hedges

GOOD PRIZE MINORCA HEN

Owned by the late Joseph Partington, England

minds of those who love the beautiful and know the uselessness of such careless mating, disgrace the owner of such a flock.



From a photograph

MODERN MINORCA AS SEEN IN ENGLAND

Showing the much-advocated excess of comb and wattles

“But why breed or mate them in any such manner, when by thought, study, and scientific mating birds can be and are produced that combine size, the true Minorca shape and carriage, the silvery white plumage, free

from any yellow tinge in quills and surface color, and that are veritable egg-machines and produce eggs that indicate what breed produced them, by their large and uniform size. Soon after the introduction of the White Minorcas into this country, they came into disrepute on account of some avaricious breeders who could not supply the demand for pure stock, and therefore used White Leghorn blood, which showed itself plainly in the size, shape, and color of the offspring. I have refused on different occasions to award a prize to such specimens. The breed to-day has a new lease of life. It is in the hands of a different class of breeders, and specimens have been shown in the last five years that, in all qualities that go to make up a



From a photograph by courtesy of Mr. Nehrboss

PRIZE-WINNING WHITE MINORCAS
Bred and owned by William Nehrboss, New York

typical Minorca, are on a par with the Blacks. However, there is one particular, taking the breed as a whole, that will require some little attention, for a few more seasons, to refine and perfect, viz., the comb. They are a trifle too large, as a rule, too thin at the base, more particularly in males, and too much inclined to shirr or wrinkle in front over beak. I expect to see this remedied, and yet no harm come to the utility side."

As egg-producers, Dr. J. W. Lyder says: "White Minorcas have long been known for their great egg-production. A peculiarity about their eggs is the uniform thickness of the shells, which is also a valuable quality in long-distance shipments for hatching purposes. The eggs are pure white and much larger than those of most breeds. It is a fact, noted by careful observation, that the White Minorca eggs, with their delicious flavor and bountiful supply of nutriment, are the first to be taken from the egg-basket for choice relish of egg-food, and also by the operators in pastry-cooking. We know of no other egg possessing so many superior qualities."

THE ANDALUSIAN *



HERE is considerable confusion in poultry literature about the origin of the Andalusians. Mr. Weir says: "In some cases, though not in all, certain breeds of poultry have been named after the country from which they were imported, and the Andalusian is one of them. Whatever country or locality this breed came from, it is simply a medium color, between the melan and the albino, the same light and dark grays being found among nearly all our varieties. These colors were bred, as in the old Kent and Sussex fowls, from cuckoo, black, or dark grays, and from black and white Spanish; also in Game-fowls, Polands, Langshans, etc.; while in animals the blue tint is easily attainable, as in the tame rabbit, and even a wild one of a blue fur, captured near Lewes, Sussex. Cats are frequently of a blue tint, as are also dogs, rats, and mice. It is reasonable to suppose that, though some Andalusians were imported, still it is but a strain of the ordinary fowl of Andalusia, similar in character and habit to the so-called Leghorn. This being so, this characteristic is by no means common to the country."

To ascertain whether this was true, Mr. Weir went to Andalusia in February, 1879, and made inquiry respecting the blue variety near Cadiz, Gibraltar, Algeciras, Malaga, etc. Although he visited several places where choice fowls were kept, the so-called Andalusian appeared to be quite unknown, though blacks, whites, browns, black-breasted reds, speckles, and splashed birds were plentiful. All of these were almost, if not entirely, identical with the breed known in England as Leghorn, or Andalusian, with the exception of the coloring.

Speaking of the early birds brought to England, Mr. Weir says: "Leonard Barber imported fowls into England from Andalusia in 1846-7. Some were evidently Polish and other crosses; he says in a few instances,

* The Andalusian is not an uncommon fowl in American yards, but is not largely and generally bred. The weight ranges from four and one-half pounds for the pullets to six and one-half pounds for the cocks, while the hens and cockerels are rated by the Standard at five and one-half pounds.—EDITOR.

they were pure white, and in shape and carriage exactly like the Black Spanish, only wanting the white cheek-patch. (Does this mean the cheek or face, or the white ear-lobe, which latter more or less all Spanish fowls

have?) 'In my opinion,' remarks L.

Barber, 'they are the most useful and ornamental breed of fowls, both for breeder and amateur. The eggs are equal in size and number to those of the Black Spanish. Some of mine last year weighed three and some four ounces each. They appear very healthy and hardy. My fowls came from Xeres de la Frontera in Andalusia, about twenty-five miles from Cadiz.

"Some of these birds were of a blue-gray or slaty color. Their growth is so rapid, and their eventual size is so large, that they are remarkably slow in obtaining their feathers; although covered with down when first hatched,

they look half naked when half grown, and therefore should be hatched as early in the spring as possible. This is the case with both the Black and White Spanish.'" This description coincides with a class of fowl Mr. Weir says he saw in the market at Cadiz in 1879. A few were white, others black, but none blue.

"In 1850-1, John Taylor, of Shepherd's Bush, imported a dozen or so fowls from Andalusia. A few were black, others speckled, but of the entire number only three were of the much-coveted blue tint; all more or less bore a close resemblance to the already well-known Minorca, or Portugal fowl, as it was sometimes called in North Devon and Cornwall. It was from these three or four birds that John Taylor produced what were afterward described as a pure and distinct race, but of this there are doubts, as they were said to be a cross of what were termed the Manx, or Manx blue fowl, a variety now supposed to be extinct. I remember John Taylor's fowls well, and thought then, as now, that they were simply a selected variety of the ordinary fowl of Andalusia, like the Minorca, Leg-horn, and some others. Of course, years of careful selection and breeding



Photograph by Prof. W. G. Johnson
ANDALUSIAN PRIZE-WINNER
AT NEW YORK, 1902

makes slowly and, in the end, but not always, surely a distinctiveness that may be admitted by some of our modern fanciers as indicative of a pure race. The difficulty of maintaining it true to all its points of excellence, without sudden and entirely unexpected deviation by reversion, somewhat contests this as to being a fact.

"It is conceded that Mr. Taylor imported such birds, but before that time blacks and whites had arrived, and in the West of England were kept in quantity. There is no doubt whatever that these were bred from true blue birds. Many of these were incorporated with those of Mr. Taylor, especially after leaving his possession, and his imports were not by any means of such graceful and elegant proportions as those that have for the time taken such hold of the Andalusian fancier of to-day, nor were they so likely to breed true either to color or even the desired form; but it was by John Taylor's uniting the best of his imported with his original stock that the present charming result was subsequently obtained.

"Andalusians were first exhibited in London at the Baker Street Show in January, 1853, by John Taylor, in a class for any other distinct breed. He entered four pens, two of which were Andalusians. Then follows an entry with White Spanish, exactly the same age (twenty-seven and fifteen months) as the Andalusians. This is somewhat significant, for at that time the blue color was made by crossing a black with a white, when the outcome would be some blacks, some blues, and some whites. Is it not reasonable to suppose that all these exhibits, being the same age, were of the same stock, and each simply sports? The next exhibit of Mr. Taylor, at the same show, is described as speckled Andalusians. This was the state of the fixedness of character in 1853. At the same show, Edward Simons, J. Whittington, and W. Culter also showed Andalusians. They were not uncommon then, and did not vary from many of the old Cornish



From a photograph

PRIZE-WINNING ANDALUSIAN PULLET

Owned by Miss Pulford, England

and Devon blues, with which they were undoubtedly crossed. It was said they were not only more beautiful, but hardier and better layers than the black and white."

The important points of the Andalusian fowl are given in "The Illustrated Book of Domestic Poultry," by John Taylor, as follows: "Comb



From a photograph

PRIZE ANDALUSIAN DAIRY SHOW PULLET

Owned by Miss Pulford

large, erect, and evenly serrated; cheek white; legs bluish; plumage gray or dove-color, each feather being lightly margined with a lighter tint; hackles, glossy velvety black, falling evenly on each side of the breast, in strong contrast to the color of the latter, but full; tail carried very uprightly, with sickle feathers well arched. The hens have the same colors, but pendant combs." This is a true description of Mr. Taylor's birds, says Mr. Weir. At

that time there was no black lacing either on the breast of the cock or any portion of the hens, they being of an entirely soft blue, a dove tint, or a violet color. The cock was marked in the way of distribution of the black and the blue exactly the same as the Game-fowl—red pile or pied—the blue tint taking the place of the white and the black that of the red, and thus would be a blue-breasted black. Sometimes the hackle of the cock, when the strain was of the light or azure character,

would, instead of black, be of a rich purple. Where this was so, occasionally a few fawn-colored feathers would appear in the neck-hackle. The fact of the feathers being edged with a light color led to the attempting and successful production of the black lacing—only permanently obtained within the last few years.

It has been stated that the chickens feathered much more quickly than the Black White-faced Spanish; that is so, but not earlier than the Minorca. In point of fact, they are somewhat erratic in this respect, some gaining their plumage much more quickly than others, it being no uncommon thing to see some of a brood almost bare, while the rest are well clothed. This was one of the points urged as tending to show that a Spanish cross had been used in the making of the strain; and not only that, but it was an open secret that the beautiful blue old English Gamefowl, once so plentiful in Devon and Cornwall, was requisitioned to add grace, color, contour, and hardiness, and that from this cross came a lesser and finer quality of comb. Be this so or not, gradually the breed improved, and was justly and eagerly sought. Though more than a little inter-breeding was doubtless used, still the result is now satisfactory.

In the *Cottage Gardener* for 1859 appeared the following on the Andalusian: "A White Spanish hen was thrown to an Andalusian cock for the purpose of lightening the hue of this class and making them more self-color." Here it will be seen that there was no idea then of lacing, but only an even color was sought. It was many years after this that black edging to the feathering was suggested as a point of beauty. Later, Mr. Hartley writes: "I have been a breeder of fowls over forty years, and seeking for the best layers. I have this year a cross between a white Andalusian cock and a Black Spanish hen; the produce are all blue, the color of a blue pigeon; and, although hatched on the 23d of May, the pullets have begun laying a fortnight ago (November 7th). I am at a loss what class to enter them in, for I intend to show them at the next Liverpool meeting. I think they are most like the Blue Andalusians, but better in color, and harder in plumage than any I ever bred or saw."

Following this is another letter, dated January 3, 1860, signed "W. H.," Exeter. He says: "I think it is in my power, as an old breeder of what we in Devon call Minorca fowls, to enlighten the questioner respecting this breed. By Minorca are invariably meant birds without any white on the face, only the ear-lobes being so, and, of course, very round and Ham-

burg-like—if wished for, it can be as successfully produced. Where only two colors are used, and those black and white, the interchange is

both easy and sometimes quickly accomplished; the only difficulty—and that, under the circumstances, by no means a difficult one—is to keep clear of any admixture of either red or yellow.”

One great peculiarity of the modern Andalusian is the tendency of the pullets at first to come cockerel-tailed, so much so in several cases as to lead to the supposition that they were bisexual. This was particularly apparent in the pullets of the late Capt. Egerton Jones. On Mr. Weir's last visit of inspection of his beautiful birds, he pointed out five pullets thus developed; in fact, though undoubtedly pullets, they looked far more like cockerels than many of the old English Game hen-tailed cocks. Not only had they the two upper or sickle feathers of the tail much longer than the

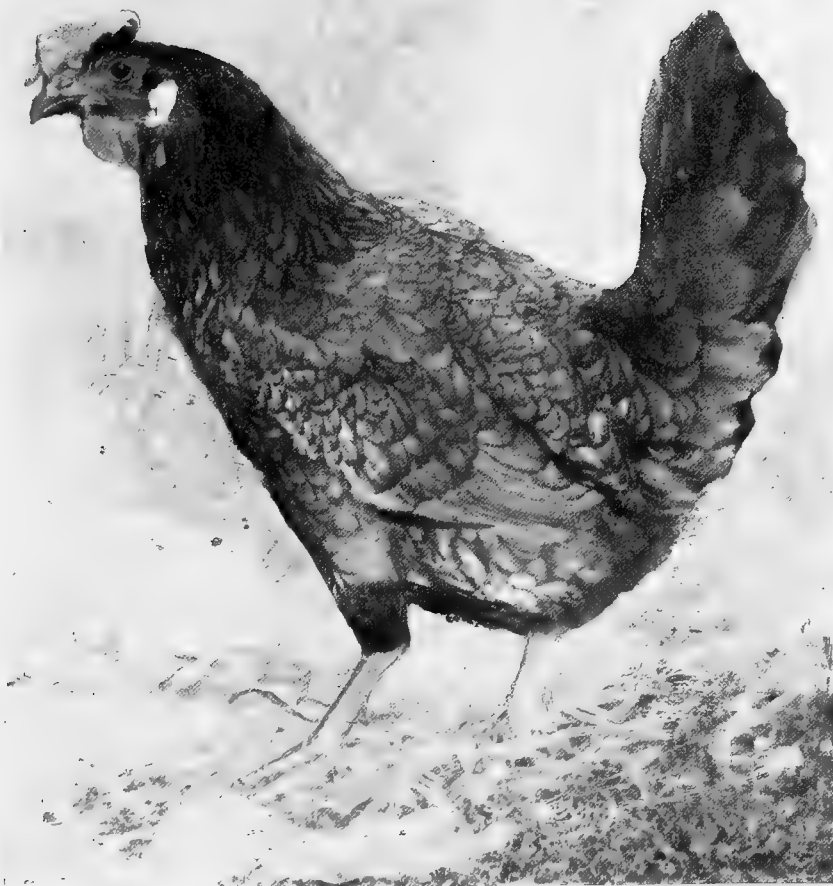


From a photograph

A SPLENDID ANDALUSIAN COCKEREL
Winner of cup, medal, and first prize at Dairy Show, 1891
Owned by Miss Pulford

others, but these were curved, as also the larger tail coverts. Captain Jones informed Mr. Weir that, at the next molt, this strange tail-feathering was replaced by the ordinary hen-tail, with the exception that it was generally a little longer than usual.

In the Hamburg family of fowls, the pullets are often predisposed to semi-sickle feathers in the tail, and, in such cases, they also are long-tailed after molting. This is sometimes so much that it has more than once presented the idea to my mind as to whether we ever had the slightest strain on the faces of either the blue, white, or black, till within these dozen years, except in isolated places, and whether the presence of it was ever



From a photograph, 1897

PRIZE ANDALUSIAN HEN

Owned by Miss Pulford

thought anything else but a fault. Well, to the point, as to the mode of producing the whites and blues: the black Minorca will often sport a white chick and a blue one also, however carefully bred; although some birds never do. Mr. Weir says: "I must confess I have my misgivings of those that do, because a white bird of any breed will be sure, with a black hen, to throw some very light birds. I have known a white single-combed Dorking cock to produce, with a black Minorca, the most perfect blue hens ever seen, with most marvelous combs. This is not by any means unlikely, consider-



PRIZE COCKEREL AND PULLET—ANDALUSIAN SPANISH FOWLS
Owned by the late Captain Egerton Jones

ing the general belief that the Dorking is of Spanish or Italian origin, and was brought to England by the Romans. It has also, when true, a white or nearly white, deep ear-lobe, and the hens have large folding combs. It is only the modern cross-bred that has the red ear-lobe, and, very happily, not all of them. When they revert to the old standard, blue, white-shanked, five-toed fowls may be as easily bred as the blue Andalusian."

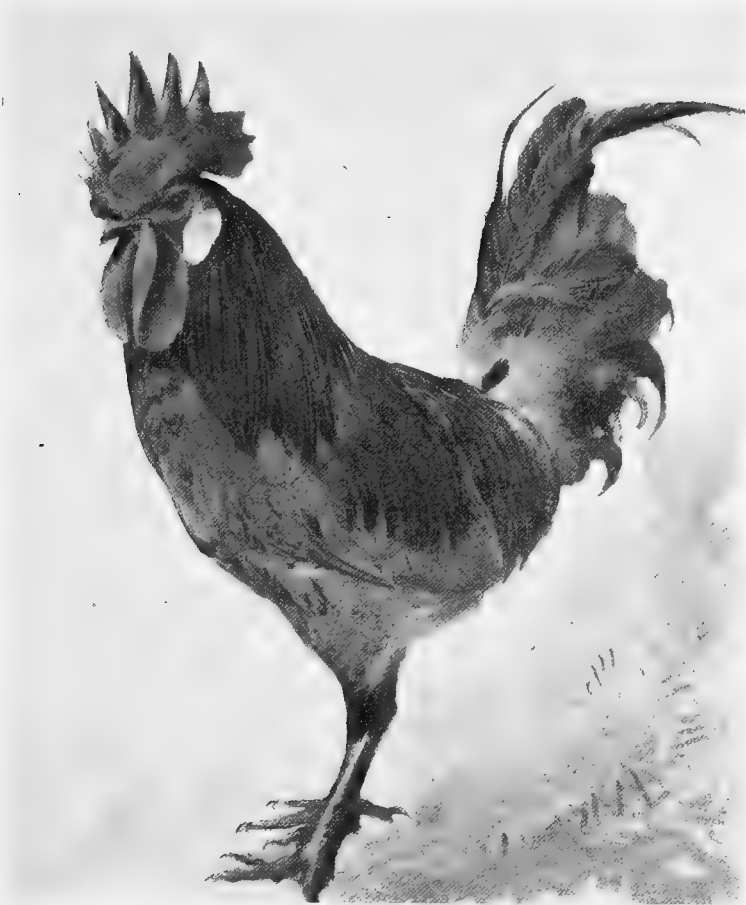
"The common plan of breeding blues in the county of Exeter," says "W. H.," "where they are numerous, is to mate the white and black, as Mr. Hartley has done. This mode of producing these fowls is not at all uncommon."

"This is the gist of the matter and the real beginning of the blue Andalusian," says Mr. Weir. "Long before John Taylor's blue birds were imported, there were plenty of the color in Cornwall and Devon that could not be distinguished from them. In the science or art of breeding for color it is one of the easiest to obtain, but not so the modern added beauty of the black edging or lacing of the feathers. Perfection in this direction, though desirable, is scarcely attainable."

Here is what the editor of the *Cottage Gardener* says, February, 1860: "The Andalusian should be in shape and form like the Spanish; the color blue, the cock's hackle and saddle darker shaded, the face red, the comb of the cock upright, the hen's falling. They are said to be a distinct breed, and they certainly are not the same as the Black Spanish."

Possibly not the same as the White-faced Black Spanish, though then, as now, the faces will come with white, or of a whitish color; but, at the time of 1845-50-55, they differed so little, if at all, from the Minorca that the produce of both, when mixed, were difficult to separate. Further, both bred not only blue, but black, white, and splashed or speckled chickens. As noted, Mr. Taylor showed some of these last at Baker Street in 1853. In another excerpt from the *Cottage Gardener*, John Hartley wrote: "In confirming the account given by 'W. H.,' in your last part, in respect to white and black Spanish producing blue or Andalusians, I can affirm that, in all the breeds I had at home and elsewhere, which were nine or ten hatches, there was no other color but blue. H. Hutson appears to have had a very different result in his breeding; mine have all, more or less, the white face, being bred from white-faced hens."

"It is certain that, up to the last very few years," says Mr. Weir, "the black Minorca was used for gaining a deeper coloring or lacing. At the



from a photograph

PRIZE ANDALUSIAN COCKEREL. DAIRY SHOW, 1892

Owned by Miss Pulford

same time it produced a very undesirable sootiness in the ground tint, instead of the clear, soft, azure hue so keenly sought, admired, and, to a large extent, achieved. In some cases, 'the ground,' or body, tint was far too dark, while in others it became very light and silvery. I have heard it debated whether it would not be well to try to produce a further variety by having the lacing on a white surface instead of the azure, and the white feathering finely margined with a deep, rich black. These would be light, elegant, and very beautiful, and quite as possible to obtain, if not more so, as the Silver-laced Seabright Bantams, which are so justly admired as veritable living works of art. I have seen some of a bluish or dull buff,

and, now and then, in the lighter colors, the cocks would have light tawny, manes. Had such been taken in hand by the skilled breeder, no doubt the results would have been both novel and beautiful. Perhaps, some day, they will be buffed, as the Leghorn now is—with this difference, that the Andalusian should have a black margin or lacing, when the first variant only is desired. Would it not be possible to produce a breed in which the hens might become sickle-tailed like cocks. It is only reversing the sex feathering in either; therefore, if the one is possible, and not only possible but exists, then why not the other, when Nature has already given an indication in that direction. Had the idea occurred to me earlier in life, I most certainly should have made the attempt to produce a fertile cock-feathered hen, or at least one sword-feathered in the tail. Here we find the chicken pullet, before she arrives at the state of fruition, slightly sickle, and, when such time is passed and over, then also not unfrequently she obtains the entire cock feathering. It is only the space between these two ages that has more or less to be dealt with. My belief is that such a variation can be made.

“In the breeding of all lace-feathered fowls, it is easier to get the clear, thin black or white margin than one evenly thick or of heavy markings; also the former has a lighter and brighter appearance. Take the Seabright Bantam as an example. How much better the thin, fine line looks than that of the broader black lacing of those of even but a few years ago; besides which there is, generally, a distinctive clearness and sharpness of outline about the former that the latter seldom or never possesses.

“If the blue with white lacing be ever attempted, the hens will present a light and lovely appearance, and the hackle, back, saddle, and wing-bow of the cock will be white, all the rest clear blue, edged with white. These, with the large coral-red combs of the breed, coupled with their erect, slender, and graceful forms, would indeed be a charming addition to our non-sitting varieties of poultry. In point of shape, the Andalusian of to-day has a far better undulating outline than the Minorca. This latter having been crossed for size, etc., with the Langshan, black Plymouth Rock, and others, has imparted to it a weighty look and heaviness that is not natural to the Spanish or Mediterranean breeds; while the Andalusian, from the coloring required, etc., has fortunately escaped this deteriorating alloy, and has, therefore, maintained a delicate beauty of form and carriage on a par with the white-faced Spanish, which, like to a

good statue, can be seen on every side with a perfect pose that takes and keeps our admiration."

Mr. Weir's illustrations are principally from photographs of birds bred and exhibited by Miss Pulford some years since. There are also some sketches of the almost perfect "strain" of the late Capt. Egerton Jones. He was not only an enthusiast upon the breed, but able to blend the colors and to rear birds in full agreement with the desired points of excellence.

"As to matching for color or lacing," Mr. Weir says, "there is no hard and fast rule. No one can match with any certainty, or even proper expectancy, not only these but any kind of poultry, that does not know, or is in some way

acquainted with, the antecedents of his stock; and even then, with a selection of years and continuous 'in-breeding,' the chances are few of getting even one perfect bird. The most approved plan, however, is for the cock to be the lighter, and the hen the fuller and richer, both in marking and ground-color. The eggs should be clear white in shell.



Drawn from life by Mr. Weir, 1892

FINE QUALITY MINORCA HEN

An old English form

The chickens, when hatched, vary in grays and white, some being much darker than others; but all, more or less, have white breasts and light-tinted shanks and feet. When feathering, which is often but slowly, the primary wing-feathers are white, as also the pinions, and occasionally with some more white about them; but they must not be discarded on this account. Most of these blemishes generally molt out. In some cases, however, they actually increase, making nothing more than mottled grays. When excellence is required, these should not be kept for breeding purposes."



MEDAL OF THE NATIONAL SOCIETY OF
AGRICULTURE OF FRANCE



From a photograph furnished by Mrs. Job

PEN OF WHITE-FACED BLACK SPANISH FOWLS

Contains winners at Chicago, New York and Boston shows. Owned by Mrs. S. G. Job, Massachusetts

THE WHITE-FACED BLACK SPANISH

T. F. MCGREW, NEW YORK



WRITING of poultry, Bonnington Moubray, one of the earliest writers, in 1816 states that the true varieties of the common species of fowls in use were the Dunghill, Game, Dorking, Poland, Bantam, Chittagong, Malay, Shackbag, Spanish, and their endless subvarieties. Among those mentioned, we find the Spanish. In describing the Spanish, he states that they are very large, the plumage black, flesh white and delicate. This variety equals in size the Duke of Leeds breed. They are well adapted for capons, and produce the largest eggs obtainable. To illustrate the position that the Spanish fowl must have had in the past, we find that the revised edition of Moubray's work, issued in 1834, contains color plates of seven breeds of fowls, one of which is the Black Spanish. These facts only illustrate the early and pronounced value of the breed. In describing them, Mr. Weir writes as follows: "Of all the fancy, and at the same time useful, fowls of the latter part of the last and during the present century, none are considered to have a higher lineage, apart from all other qualities, than the White-faced Black Spanish."

This is true not only of the Old World, but of this country as well. We find that they were highly valued throughout New Jersey, Pennsylvania, and as far west as Ohio, in the early sixties as egg-producers. While the Spanish of that early day did not have nearly so much of their distinctive features in the shape of the white face and cheek, they were almost of the same form, of good size, very much more vigorous and sturdy than at

present, and wonderful egg-producers. Those who originated and fostered them did much along the line of art and beauty in their upbuilding. The fanciers have gone far beyond this, even to the extent of adding to their

make-up an unnecessary amount of white appendage or cheek, as it is sometimes called.

We often inquire as to the causes that have produced purple in the plumage of these black fowls. We find that early writers, in describing the fowl, stated as follows: "Plumage of clear black, with brilliant reflected tints of green and purple; single comb, with a clear milk-white face and ear-lobes; dark-blue legs and a lofty carriage."

Speaking of the Black Spanish of the early fifties, Mr. Weir states that at that period the White-faced Black Spanish fowl may be said to



From a photograph

WHITE-FACED BLACK SPANISH FOWLS

From the yards of Messrs. Abbot, England

have been, par excellence, the fancier's fowl. It was looked upon as not only being useful, but as having properties of such refined character that they were difficult to obtain; hens were less so than cocks, and certainly a well-grown, well-developed White-faced Black Spanish hen was a very graceful and beautiful bird. In these, there was an indefinable elegance of pose and bearing not observable in any other breed; the long, slightly curved head, the large, full, dark but bright chestnut, almost black eye, the fine quality of the deeply toothed and folded comb, the white kid-like texture of the ear-lobe and face-covering, the thin, fine, smooth, coral-red wattles, hanging from the base of the jet-black beak, the head well set on a neck of graceful and slender form, and so carried as to make a line of beauty scarcely ending in the shoulders which bore it; and also the high-carried, close-feathered tail. Such hens have their admirers, and justly so. It was the cocks that were the trouble.

When young, they, too, held their own for stately form against all comers, save the old warrior English Game. Even with these the White-faced Black Spanish cock in all his pride of youth and beauty stood well for

honors. But, as they grew in years, then it was, as now, like the Spanish beauties of the gentler sex—their beauty diminished, the folds of the ear-lobe and face became enlarged, exaggerated, and, in some degree, unsightly, though still marvels of the fancier's art in the way of production. Yet the beauty left failed to assert itself; and not only that, but in some cases where the white flesh quality was coarse, or none of the best, it would hang so loose, so ill in form, that the bird was prevented by it from seeing, and this was mostly the sequel to an undue fulness above and around the eye. But much of this has been obviated by the endeavor, not only to obtain size of face, but to have it smooth and silky, with as few folds as possible.

One point in favor of the old White-faced Black Spanish fowl was that, though in many cases they were somewhat tall on the leg, they were also fairly good in the breast, and occasionally very much so, especially the pullets, and the flesh was remarkably white, tender, and rich in flavor, the skin thin, and the fat white and delicate; besides which, they fattened evenly and with less offal than many other varieties. True, they were not large, the adult cocks rarely being more than eight pounds, and it would be a large hen at seven pounds; still the quality was, all things considered, very fine; therefore, they might, and yet may be, placed among some of the best of our medium-sized table fowls.

Then why is it that they have sunk so low in the fancier's estimation, possessing as they did, and should now do, so many excellent qualities—fancier's beauty not one of the least?



Drawn by Mr. Weir

WHITE-FACED BLACK SPANISH HEN
From an English yard

Mr. Weir says: "Of the White-faced Black Spanish of to-day, that kindly, courteous, veteran fancier of the breed, F. M. Chatterton, late Honorary Secretary of the Black Spanish Club, has supplied me with the following reliable, practical, and highly interesting notes, all of which tend to uphold and justify what has already been said, both of the beauty, excellent qualities, and great utility of the breed: It is appropriate that the Black Spanish fowl should occupy a prominent position in every work on poultry, not only because of its ancient lineage, but for the many sterling qualities, wonderful laying powers, and great adaptability to be kept in good condition and health with only a few yards of ground to live upon. The Spanish can bear confinement better than any variety of poultry; hence it is the ideal bird for all people living in large towns, where garden space is limited. Some people have libeled this breed by saying it is delicate. They are often subjected to such treatment as would completely ruin most breeds of poultry. They are often kept in small, heated, dark pens for weeks, to develop their lobes quickly, instead of giving the poor birds time to develop them in a natural way. Is it to be wondered that birds treated in this manner should become delicate? Spanish fowls, under reasonable treatment and management, are as healthy as any other kind. They are non-sitters, and prolific layers of a very large egg of the most delicate flavor—such that invalids can eat with impunity. In fact, we have known people that could never touch eggs in the ordinary way without feeling ill effects, but who could relish a fresh Spanish egg with no after inconvenience. Recently, some of my Spanish fowls have averaged 200 to 250 eggs per year each. What becomes of the assertion that now they do not lay well?"

The cock bird should be high in the leg, of very stylish carriage, comb not too large, of smooth quality, free from twist or thumb-mark in front, serrations deep, the back part nearly touching the back of the neck, with a good, thick base, firmly fixed in his head. The face should be very broad and smooth, the white extending as far toward the back of the head as possible, with a good space of white between the eye and base of comb; the lobes long and broad, and not pointed at ends, perfectly flat, free from folds and creases, and the whole face and lobes of a dead-white color, a texture of white to resemble fine white kid, and having a beautiful gloss. The white should appear between the wattles and hang down below them.

The Spanish hen should also have a large, smooth face, and lobes very

broad, especially at the bottom, perfectly flat and free from tucks or folds. The plumage of both birds should be a beautiful beetle-green with plenty of sheen, the legs and feet pale slate color, as birds with the dark legs generally have faces and lobes of a dirty white color. More than one person, writing of this breed lately, has described them as having black



From a drawing by Mr. Weir

BLACK SPANISH PULLET, 1903

Showing diminished comb, with much enlarged white wattles and face, also with lessened shank
Bred by Harrison Weir

legs. This is a great mistake, as, in the Standard drawn up by the Black Spanish Club, compiled by a very strong committee composed of some of the large breeders, it was decided that the dark or black legs should be a disqualification. When taking one of these writers to task, he remarked that he considered that all black birds should have black legs, but, as he

had never bred any Spanish fowls in his life, the value of his opinion is questionable. We shall now see under what conditions they can be kept satisfactorily with a little care and attention, so as to enable any intelligent



HEAD OF WHITE-FACED
BLACK SPANISH COCK

From a photograph furnished
by the owner, Mrs. S. G. Job, Mass.

person to successfully breed and prepare them for exhibition. It must be taken into consideration that they do not require a large run or field to roam over, for it is well known that most of the best Spanish that have been exhibited were bred and reared in large cities, such as London, Bristol, etc.

We have always found that the best birds are bred from broad-faced hens, providing they are of good quality, mated with cockerels a little rough in face, rather than having a smooth-faced cockerel with rough-faced hens. Having procured a cockerel and three or four hens, make up your pen in January; you should then be able to get some chickens in March or April; those hatched in the early part of the latter month generally make the finest birds, both for exhibition and stock purposes.

It is very desirable to keep the hen with the Spanish chickens as long as possible, the little things having so few feathers when losing their chicken-down. For this purpose, keep the hen under a coop, and, although she may drive the chicks out in the daytime, she will brood them at night.

Perhaps no one has written more fully of the Spanish fowl than has Martin Doyle, in his early publication. We quote from him as follows: "The fowl called Spanish is not an aboriginal of Spain, but was imported into that country from some portion of the East, through the Mediterranean, or has been brought from the West Indies by Spanish merchants, and propagated and naturalized in Spain. Thence European countries were stocked, and the name is therefore a misnomer. These birds differed from the present Spanish in having a smaller and less white face, darker feet and shanks. We find that, previously to the introduction of the bird in question, a diminutive species known as Manx was the common class of fowls reared in Spain. These two breeds were crossed together, varieties were thus raised, and the present subvarieties of the Spanish fowl are

partly the result. In Holland, before the introduction there of Spanish fowls, there was a domestic bird—in color a dun or bluish-slate—much inferior to the other, whence, if we should carefully observe the variations in this latter class, it becomes evident that such differences are the result of admixture with the primitive breed.”

Again, Mr. Doyle states that, in 1853, it was quite as difficult to produce the wonderful Spanish cock at Birmingham as to produce the winner of the Derby. This shows that the quality of the Spanish as show specimens, even at that early day, must have been very fine indeed. This writer goes further and states “that the original Spanish fowls brought from the West Indies and naturalized in Spain and Holland were excellent sitters and good mothers, but the high artificial culture to which they have been subjected in these countries, coupled with the occasions of breeding in and in, have had a great share in influencing the Spanish hen further from her primitive motherly habits. These hens seldom exhibit a disposition to undertake the task of incubation, and, if it be attempted, they will in the generality of cases vacate the nest long before the chicks would be hatched.” Sometimes they will perseveringly perform the maternal duties, but it is against their general character. They are somewhat disproportionately long in the leg sectionally, and more subject to cramp. This commonly accounts for their being so averse to such sedentary occupation.

While many of the writers, as well as naturalists, do not agree with the statements above recorded, it shows the early-day inclination of the fowls, and the ideas and beliefs of the different fanciers as to their general make-up and origin.

Writing of them, Lewis Wright states that they stand at the head of a group which almost certainly came from the Spanish Peninsula. All the names of the nearest kindred race testify to the same origin. While there is ample evidence that fowls of the same type are still found in that country, the general type itself is found over a much wider area; the smaller size



HEAD OF WHITE-FACED BLACK
SPANISH HEN

From a photograph furnished by Mrs. S. G. Job, Mass.

and yellow legs of the Leghorn family are minor differences, as are various colors of plumage; but all around the Mediterranean, in Greece, Asia Minor, Algeria, and Egypt, as well as in Italy and Spain, are found fowls which, in their large single combs, startling carriage, absence of the incubating instinct, and generally more or less white ear-lobes, evidently belong to one great family.

While there seems to be little dissension as to the claim of the Spanish origin for all the Mediterranean fowls, there is every reason for believing



From a drawing by Mr. Wen

IMPROVED WHITE-FACED BLACK SPANISH COCKEREL

that some of the very best specimens of the Black Spanish breed were formerly bred in the Netherlands and in Holland as well. Some sixty years ago, perhaps the best specimens came from there into the hands of the French and English fanciers. The silk-weavers of Spitalfields were classed as among the best fanciers of this breed. In speaking of these weavers as producers of this breed, Mr. Weir states that: "These were the men among whom years ago were the most ardent fanciers of the White-faced Black Spanish fowl, and it was in this district and home of looms in the East of London that they were to be found, and in considerable numbers. Some in sheds, some in cellars, but mostly in small covered runs in the gardens or back-yards; and then, when work was done, on a summer eve, would these quiet, peace-loving people sit two, three, or more together, smoking their pipes and contemplating their flowers, pigeons, and fowls. Well I remember some of them in their gardens, the plant-frames with auriculas in full bloom, and near at hand their White-faced Black Spanish that, admire as you might, money could not purchase; and yet of such cheerful fellowship were they that they would sooner give than sell."

There were formerly two varieties of the Spanish fowl, the one known as the White-faced Black Spanish, the other pure white with a white face. The white variety was never popular, some think because the white plumage and the white face and cheek were not so attractive as the same upon the black variety. We remember, in years past, having seen some fowls that were called "White-faced White Spanish," but, as we remember them, the impression made was that they were more like a white Leghorn or Minorca, the red face of which has been overgrown partially with the white. We can readily understand that it might be possible within a short time to have many of our White Leghorns with full white faces; all that would be required would be to select and breed together specimens showing the inclination for white in face. By so doing, we might soon have white faces upon our Leghorn fowls.

In considering the Black Spanish fowl from the American standpoint, we must take them as we find them in the exhibition room, and as described in the American Standard. We do not encourage quite as much length of limb as seems to be desired at the present time in England. While we do advocate birds of good height and carriage, we do not lean toward the awkward length of leg that has the appearance of being stilty or too long in proportion to their bodies.

Another feature of vital importance under the American standard is that the face should be long, deep, smooth, and free from wrinkles, a face so wrinkled as to obstruct the sight being a disqualification with us. We like to have the white in the face well up about the eyes and down below the wattles, forming a long, pendent cheek which joins the wattles, hanging considerably below and very much larger than they. Combs we prefer not to have unnaturally large in size. They should be well-formed, perfectly straight, and upright, deeply and evenly serrated, not too thick and heavy at the base, starting well down to the beak and extending well over the head, with an arch almost following the shape of the head.

One of the most unfortunate features of the Black Spanish is to have the combs unduly or unnaturally large, and excessively large wattles that are rough or corrugated. We have seen some Spanish male birds with combs so large that, when they rested at night, as they did upon a bed of straw, they would lay their heads down upon the straw while they slept. Some breeders have made the statement that these unduly large combs are injurious to the mentality of the fowl; we have known some of them to be dubbed as are Game-fowls, when made use of in the breeding pens. We do not think that it is to the best interest of the breed to encourage these combs of unnaturally large size.

The neck of the Spanish male should be long, nicely arched, and have an abundance of hackle plumage that flows well down over the shoulders. While the Standard calls for a back of medium length and breadth, the tendency at the present time is for a long back that slants back to the tail. This is even more noticeable and prevalent in the female than in the male. The tail in the Black Spanish male should be large and full; the carriage of the fowl rather erect, wings large and closely fitted against the body. The demands for legs and toes in the American Standard is for thighs rather long and of good size, shanks long and medium; while the English Standard calls for rather long thighs and long shanks. While these descriptions are so nearly alike, the facts are that the English birds are considerably longer in leg than are the American-bred birds.

One of the features of equal value in the female is the good, long, well-proportioned body, the back long, breast and abdominal proportions quite prominent, tail described as large and similar to that of the male. The facts are that the most-to-be-admired tail on the Black Spanish female at the present time is the one that has the carriage almost the same as that

of the modern type of the Minorca. The comb of the male stands erect. The comb of the female hangs over to one side, as should the comb of all the Mediterranean females. For color of shanks, our Standard calls for blue or dark leaden-blue; the color of shanks in the English Standard is described as pale slate color. We are satisfied that great improvement might be made in the plumage color of the Black Spanish if the color demand for shanks might be encouraged along the lines of a considerably darker shade of color.

The largest classes of Black Spanish that have ever been known in this country have come to Boston. Many of the most successful breeders of Black Spanish live in Massachusetts, New York, and Canada. They have never become so plentiful as to be classed as one of the popular varieties or breeds. This is largely the result of their having been developed into a strictly high-class exhibition fowl. They are a true fancier's fowl, as bred to-day, and they must be carefully cared for and nurtured and protected from the cold of winter. If, perchance, the frost might nip the white of face or cheek, it would result in the almost certain destruction of the specimen.

In former years, this was not true; in many localities they were kept and cared for as are the Leghorns of the present time. Their real value now is their winning qualities in the exhibition hall. They must be bred to the highest type and character of standard demand, and for this reason they have stepped down and out of the list of general-purpose fowls, and have taken their position with the present-day standard Game-fowls and other high-class, fancy exhibition breeds. The pen-sketch description of the Spanish fowl would describe them as being lengthy in legs, although not



Drawn by Mr. Weir

WHITE-FACED BLACK SPANISH COCK



BLACK SPANISH COCKEREL

Drawn from life by Mr. Weir

Showing improved white face and skin, with less wattles and comb. Bred by Harrison Weir

so lengthy as to be stilty, the neck rather long and nicely arched, the head carried high, with breast prominent. Ofttimes this upright carriage is injured from the fact that the overgrown comb pulls down so heavily upon the head of the male, and perhaps the female as well, as to cause them to stoop or droop, as might be said, in the exhibition pen. To obviate this and improve the general appearance, it is best to breed them for the smaller-sized combs.

The body rather narrow, with a gentle sweep to the tail. Squirrel-tails are an abomination in this breed. The chief points, however, center in the perfect form, finish, and color of the face and cheeks as well. These

must be perfectly formed, smooth as enamel, and pure white in color. Ofttimes the face of the Black Spanish will become injured or sore from some cause or other. When this ailment attacks them, great care and attention should be given to the careful cleansing and caring for the injured parts, for, if the soreness attacks them, it is very apt to destroy their beauty and attractiveness.

In producing the Black Spanish, the great desire is to have only the best, and to gain this end you must have in the parent stock, to the highest extent possible to be obtained, the very qualities to be desired in the young stock, viz., form, feather, color of plumage, and head and face qualities of the highest character. In fact, to begin with, in the growing of Black Spanish fowls you must have the very highest quality of exhibition specimens from which to breed them. In addition to this, the chicks must be hatched early, never later than May, strongly fed and carefully grown, and pushed to quick maturity. There is considerable trouble in the growing of the chicks, as they do not seem to feather as fast as they should. They should be carefully fed not only with that manner of food which will furnish the blood elements for the growing of the comb, wattles, face and ear-lobes, but they should also have plenty of bone- and feather-forming foods. If these demands are carefully followed and catered to, there will not be very much trouble experienced in the producing of good quality specimens.

The greatest difficulties present themselves in growing and keeping them in the best of condition for show purposes, in a climate where the winters are very cold. One of the most satisfactory houses we have ever seen for the growing of Black Spanish was a low-set, well-constructed house, with very small runs for individual birds. Within this house were built small pens or runways of muslin, the side and top of the run being covered with the muslin. This building was heated the same as a house, with a base-burner stove. It was kept continually heated to a temperature above fifty degrees F. the entire winter. In this house, the specimens were at all times in as fine condition as they would have been during the same temperature of the summer months. It was surprising to note the number of eggs that the Spanish hens produced under these conditions. These specimens were always ready to be taken out and sent to the exhibition room, and, when shipped to the exhibition, they went in double-lined boxes, made especially for the purpose, an attendant always going

with them to be sure that there would be no chance of their smothering in the boxes, if, perchance, they were placed in overheated cars or rooms. The same assiduous care and attention were given them when they were



AN OLD-TYPE WHITE-FACE
SPANISH COCKEREL

exposed to the cold, to keep them from being frosted. In preparing the Spanish fowls for exhibition, it is quite necessary to examine the face, wattles, and ear-lobes for the presence of any small feathers or hairy appearance that may grow thereon. Carefully pull all these with the tweezers, so as to remove any appearance whatever of the growth of feathers or hair upon the face or ear-lobes.

This careful going-over oftentimes improves the appearance of the face, which might show dark specks or blotches if the presence of this unnatural growth of hair or downy feather is permitted. In addition to this, the comb, wattles, ear-lobes, and face must be thoroughly

cleansed, by using lukewarm water and a soft cloth. A soft brush, or sponge, may be used in the scouring of the shanks and feet, in warm water, to give them the finest appearance. After being thoroughly cleansed, the shanks may be improved somewhat if rubbed or polished with a chamois skin and a very small amount of melted beeswax. Polish the shanks in this way, but do not leave the slightest trace of the wax upon the shanks.

There is no breed of fowls that suffers so much from the effects of the confinement of the show-room; hence, when they are returned to their home from the exhibition room, they should be carefully cared for and looked after, special attention being given to protecting them from cold and the baneful frost. This is more likely to attack them after leaving a warm exhibition hall than at their home. In the judging of the Spanish, it must be remembered that weights are to be considered, the Black Spanish cock weighing eight pounds, cockerel and hen six and a half pounds, pullets five and a half pounds. We have seen some specimens weigh even more than this. While the Spanish fowl is judged under the same scale of points as are the Leghorns and other Mediterranean breeds, in considering the Spanish great stress is laid upon the value, condition,

and qualities of the head points, including comb, wattles, ear-lobes, and cheeks.

When preparing the birds for exhibition, place them in separate pens, about three or four feet square, wash the face and lobes two or three times a week, using a good quality of soap, warm water, and a soft piece of sponge. After thoroughly drying with a soft towel, dust on a little oxide of zinc powder. It is a great preventive of the eruption which comes at times upon the heavy-faced birds. Feed them a little hemp seed and bread soaked in warm milk. Wheat is very much valued for feeding Spanish fowls that are intended for the exhibition room. It is less heating to the blood than corn or other fattening foods. The face and lobes of a good Spanish cock often measures about nine inches from the base of the comb, and about five or six inches when spread out, and those of an equally good hen, four inches long and two to two and a half inches wide.



From a drawing by Mr. Weir

WHITE-FACED BLACK
SPANISH COCK



From a photograph

PLAIN GOLDEN POLISH COCK

First at Pan-American Exposition at Buffalo. Owned by W. H. Card, Connecticut

THE POLISH *

W. H. CARD, CONNECTICUT



THE name "Polish" is, I understand, taken from the conformation of the head under the crest, viz., poll or crown, which is a sort of soft, spongy mass of fat and flesh, globular in shape. The following is from the pen of B. P. Brent, of Kent, England, and is quoted from *Kidd's Journal* (Vol.III.):

"The following are the varieties which I think should be acknowledged: The Padua fowl, so called from the fact of its having been cultivated in Padua—a Venetian legation of Austrian Italy. They are described as very large fowls, the cock so tall that it can peck crumbs from a common dining-table, and often weighing as much as ten pounds. Behind the moderate-sized comb is a large tuft of feathers, which is still larger in the hens.

* The American Standard of Perfection recognizes the following varieties of Polish: White-crested Black, Golden, Silver, White, Bearded-golden, Bearded-silver, Bearded-white, and the Buff-laced. This chapter has been entirely rewritten by W. H. Card, the well-known Polish breeder and expert. The records of his personal experiences here set forth are valuable and suggestive.—EDITOR.

Their voice is hoarse, eggs large, legs yellow, and plumage various. They are supposed to be descended from the *Gallus giganteus* of Sumatra. Does not this description answer to a tufted Malay? Poles were also a large fowl. They were of Spanish extraction, but where the Spaniards first obtained them is a matter of doubt; most likely from some of their western possessions. St. Iago has been suggested, but which St. Iago is not specified. They were introduced by the Spaniards into the Netherlands, whence we obtained them. The Poles were very large, roundly built fowls, rather low on the legs, which were dark-slate or lead-colored. They were destitute of combs, but had large topknots of feathers on their heads, which fell over on all sides. They were considered good layers and an excellent quality of flesh. None are bred to-day, as breeders have failed to reproduce them. There were three varieties of colors—the black with white topknot, the white with black topknot, and the spangled, the ground color of which was a mixture of ocher, yellow, and black, each feather having either a black or white spangle at its extremity. These varieties are now very scarce, if, indeed, they are not quite extinct.

“The Hamburgs (by this name I allude to the tufted fowls formerly known by that name, and not to the Dutch Every-day Layers, which are now generally known by it) were, and still are, imported from Hamburg. I believe them to be a mongrel of the Poles, now considered a cross between what is called Silver-spangled Hamburgs and Polish fowls. They were called Bolton Grays in some sections of America, also Everlasting Dutch Layers. They are smaller, their tufts are not so large, and are fronted by a small comb; they have, generally, a profusion of beard and whiskers; their legs are dark, and their plumage is either golden or silver, or edged or bordered with black, giving them an imbricated appearance. The pheasant marking is where the feathers, either of gold or silver ground colored, are marked or dotted with black at the extremity only, resembling the feathers of a cock pheasant's neck, whence the name. This marking is often (improperly, I think) called spangled. Polands, Polish, etc., such as are generally known by these names, are a mixed lot. They are crosses from the foregoing, and perhaps also from some others. Consequently, they vary considerably; hence arise the disputes respecting the beards, etc. Beards, or muffles, are preëminently a characteristic of the old Hamburgs, but also occasionally occur in the Paduans and Poles, and frequently in all other tufted fowls. There is a tufted cuckoo, or slate-colored fowl,

known as the Egyptian or the blue Poland; also a common white-tufted variety called the lark-crested fowl. Moreover, a sort of Game-fowl with a small tuft used to be very plentiful some years back, and esteemed for courage; from which, I think, it is evident that all tufted fowls can hardly be considered of a common origin."

Mr. Weir says: "The crested, or topknotted, whiskered, and bearded fowls are not confined to any particular country. They are not of modern



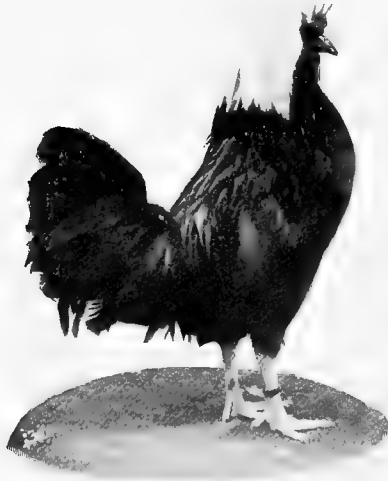
GROUP OF WHITE-BREASTED BLACK POLISH
Bred and owned by Charles L. Seely, New York

From a photograph

introduction. Their origin is not known. They are found in districts as widely apart as Russia, Turkey, Egypt, China, and most parts of Europe. They are generally handsome in appearance, fairly good as table birds, excellent layers of pure white eggs, yet when true-bred are mostly non-incubators—none of my own Golden and Silver Polish ever becoming broody."

Many changes are brought about by scientific breeding for certain points and not by chance. The domestic fowl is a good example. The

varieties of the comb and wattles are interesting to a degree; but far more so when these natural, ornamental, and, it is asserted, useful appendages are partially, and sometimes nearly, if not quite wholly, replaced by



From a photograph

WHITE-CRESTED POLISH COCK
First at many New England shows in 1904
Owned by Miller Brothers, Massachusetts

feathers of a size commensurate with that of the kind of comb which they displace. In some cases, even the skull of the bird is enlarged or deformed to the extent of becoming a round, an oval, or a hemispherical form, about which the growth of the topknot or feathered ball is placed. This was, without doubt, the most extraordinary part of the change, for nothing of the same character takes place if the comb is enlarged to any size beyond its normal condition; indeed, it has been stated that fowls with the largest combs not infrequently have the smoothest and thickest skulls; but of this there is no positive proof. Mr. Weir says he has seen many wonderful and peculiar bone formations among the heavily feathered top-

knotted birds. This is not so in the duck tribe; although the "copping" or "topping" may be of a large size, there is no difference whatever in the bone of the skull formation, there being only a larger fatty ball, more at the back of the head than in the fowl, and on which the feathers grow. Perhaps the most perfect breed of this kind of domesticated fowl is that which for centuries was known as the Hamburg—now termed Polish or Polands—or, in the north of England, Coppies or Copples.

A similar fowl was noted by Aldrovandi in the sixteenth century, and by Blumenbach in his work of 1813, where he mentions it as a remarkable variety of domestic poultry, distinguished by a thickly feathered crest on the head and by a ball-like protuberance on the forehead. In England, Mr. Weir says, this variety was known as the Hamburg, by reason of its being originally imported from that city. It was a breed much fancied in Holland, the Netherlands, and in some parts of France, though the English dealers invariably obtained their supplies from or about Hamburg. It was more especially from the south of France that the Messrs. Baker, of

Chelsea, obtained those fine specimens that in other hands figured so largely at most of the early poultry shows. Philip Castang derived his from another source, and many of them, though large in the crest, were without beards. From what precise locality these were obtained was kept a profound trade secret, though numerous efforts were made to discover the particular Dutch or Belgian fanciers that produced birds unrivaled by any other country, and always commanding high prices in the English market.

The breed has been one of repute and beauty for a long period. The numerous paintings by the old Dutch Masters, in which the Hamburgs are faithfully pictured, amply testify that they, the rose-combed and wattled fowls, were evidently regarded with unusual favor, and, judging by the delineations, deservedly so. Both these and the rose-combed birds were non-incubators.

Willoughby (1678) does not mention the breed, but gives only a passing notice of the common hen as white and "copped." But, in the "Natural History of Birds," by Dr. R. Brookes (1763), it is thus described: "The Hamburg cock is a stately fowl; his bill is thick at the base and ends in a sharp point; the eyes are of a fine yellow, encircled by dark-colored feathers, under which there is a tuft of black ones that covers the ears. It has a rosy comb, but that does not reach half way on the head, the hinder part being covered with dark-colored feathers, inclining to black; the throat and gills are of much the same color, with long hackle-feathers of a mixture of orange and red waving down the neck, and black at the extremities; the breast and belly are of a dark color, variegated with round black spots, and the thighs and lower part of the belly are of a velvety, shining black; the hinder part of the neck and top of the back are of a darkish red, and the tail consists of shining black, red, and orange-colored feathering; the legs and feet are of the color of lead, only their bottom is yellow."

This is the Hamburg of one hundred and forty years ago. It appears from the description that then it was "a stately fowl," the adjective possibly meaning somewhat large. Evidently, it was very rich in coloring, and at that time appears to have been free from the modern blemish of white feathers in the topknot, though this latter does not seem to be of the full round character of even half a century ago. Another noticeable point is that the soles of the feet were yellow.

Next, Bewick, in his "British Birds," speaks of (1) "the crested cock,

of whom there are several varieties, such as the White-crested Black and the Black-crested White, the Gold, and the Silver."

That he considers the crested fowl different from the Hamburg is apparent from what follows:

(2) "The Hamburg cock, named also Velvet Breeches, because his thighs and belly are a soft black." Buffon still further adds: "This is a very large kind, and much used for the table."

This tallies with Dr. Brooke's description, which may be from the same source. At any rate, the Crested, the Polish, the Polands, and the Hamburgs have always been considered as one and the same, or but a slightly varied breed. More confusion arises from reading "Rees' Cyclopædia" (1819), Vol. XXVIII. ("Poultry"), where the writer says: "It is well known there are many different breeds of these sorts of live stock, but those best known of the fowl kind are the Game breed, the white or English breed, the black or Poland, the Dorking breed, the large or Shakebag breed, and the Malay breed."

"The first two are much smaller birds than the others. This sort of stock affords profit in the eggs, as well as the chickens; therefore, such as are best layers and sitters must be chosen, which are in general the Game and the Poland birds."

Here the Poland is mentioned as black, and not only as a good layer, but a sitter, which is unusual in the Hamburg, Poland, and Polish fowls.

Peter Boswell, writing in 1840 ("Poultry Yard"), alludes to the Poland: "This is a kind we esteem above all others, both from their appearance and usefulness. We regret they are so seldom met with in this country. We have often been disappointed in not meeting with a single specimen even in some extensive and well-furnished poultry yards. The prettiest flock of them we have seen in Scotland was at a cottage door on the road between Piershill Barracks and Leith."

Boswell continues: "They are not so thickly covered with feathers as some of the other breeds, and still less with down; their form is plump and deep, and the legs of the best sorts not too long." This was so, and many people kept them for the table, as well as for egg-production. Mowbray writes thus: "The Polanders are kept as ornamental, but they are also one of the most useful varieties, particularly on account of the abundance of eggs they lay, being less inclined to sit than any other breed, whence

they are sometimes called 'everlasting layers,' and it is usual to set their eggs under other hens.

"They fatten as quickly as any other breed, and are in quality similar to the Dorking; their flesh is, perhaps, more juicy and of a richer flavor.

"From October 25th to the 25th of the following September, our five Polands laid 503 eggs, only one of them wanting to sit within the time. An average egg weighed one ounce five drachms, exclusive of the shell, which in this bird is very thin; the above number making a total weight of fifty and one-quarter pounds and a fraction more," which is by no means up to the usual good laying. My own averaged about one hundred and forty per annum—two hens laying more. Still, it is significant, showing that the weight of eggs produced far exceeded that of the birds themselves. Egg-production depends largely upon the feeding, etc.

"The 'tops' of these fowls should be periodically clipped, or they grow into the eyes of the fowls and nearly blind them, rendering them very subject to alarm and to be driven away; this is particularly necessary in wet weather." Thus far Mowbray.

I found when "the tops" of mine were allowed to remain entire, any one could easily from behind, moving softly, pick up

either a cock or a hen, which would not appear even surprised. Several were stolen, being thus caught up by strangers.



From a photograph

BLUE POLISH COCK

Bred by the originator of the variety, H. L. Clapp, Massachusetts

The Rev. Saul Dixon, writing in 1850 of the Golden Polands, says: "Many of them are disfigured by a muff or beard. No such birds should be allowed the *entrée* of the poultry yard, but should be dispatched at once to the fatting coop." Further on he apparently relents, for he says: "It is a question with the curious, whether the muff at the throat is, or is not, an original appendage to these birds. The earliest figures with which Mr. Weir was acquainted (Aldrovandi's) increased the difficulty by displaying a pair of fowls, one with and one without a muff. Albin (1736) figures a cock 'of a peculiar breed, which is brought from Hamburg by our merchants,' with a short topknot, a decided beard, and actual whiskers—'a tuft of black feathers which covered his ear.' The Irish fanciers decide that, in the same clutch of chickens, the produce of the same parents, those which have beards in addition to their topknots are to be called Hamburgs, and those with top-knots only, Polish." This was indeed an odd way of trying to get out of the dilemma, and scarcely safe to follow. Again: "Others contend that the beard comes from the Russian fowl, which is, as near as we can ascertain, a bearded Dorking." The Russian fowls that have come under Mr. Weir's observation certainly have been bearded, but not top-crowned. Mr. Dixon adds: "A distinct race, of which the muff is a permanent characteristic, is not at present known." He continues to assert his aversion to this variation, for he says, "It is a frightful appendage, and not easily got rid of if once introduced into a poultry yard; which makes me suspect either that the original Polish were beardless, or that there were two ancient races." In this supposition Mr. Dixon was correct, as events subsequently proved.

"When the Poultry Shows commenced," says Mr. Weir, "there were without any doubt two separate and distinct varieties of the Polish or Poland fowl, both having the singular formation of skull. The black, with the white crest, never had a beard—at least, I never saw nor heard of any such; while among the entire blacks were some with the beard and some without; so also among the golden and silver spangled, the white, blue, and fawn-colored. This being the case, and some of the fanciers preferring them with, and some, like Mr. Dixon, without, there appeared to be nothing for it but to have separate classes for each, with proportionate prizes. The contention was long and 'wordy,' and somewhat militated against the advancement of the breed in the estimation of the public. The Messrs. Baker, who imported many of their best birds from Marseilles,



PRIZE BLACK (WITH WHITE COP-KNOT) POLANDS.

contended that the silver and golden spangled should be bearded, but not the black with the white crowns. Mr. Parkyns Jones, also a Poland fancier, was on their side. The question was not decided one way or the other at the beginning of 1853. At the Metropolitan Poultry Show held in January of that year, I find that there were two classes: one for a cock and three hens, and one for a cockerel and three pullets, for black Polands with white crests. The united number of entries in both classes was but fifteen. (I saw these, and

the beard.) Then followed golden, with ruffs best cock and only three other class for three pullets, land with beards, had entry, that Godfrey Hull; while of the same without beards, entries for the old and for the young, spangled birds of any and beards, entries were

conceived a preference for lowed Poland fowl—and beards—the three hens, with entries. Another cockerel and golden Poruffs and but one of Master Horner, of for Polands colors, etc., the number of birds was but four, five. In the silver-class, for age with ruffs but four numbered,



From a photograph

PLAIN WHITE POLISH HEN

Winner of seven first prizes at leading New England shows in 1904
Bred and owned by Cutting and Estes, Massachusetts

and the chicken class had but three entries; while in that for birds of any age without ruffs or beards there were only two entries; and in the chicken class of 1852, no entry. Thus it will be seen that of those spangled, with ruffs and crests, the united entries were but eleven; and the aggregate of those without was twelve, one in advance of the bearded, ruffed, with crests. This is exclusive of the black with white topknots, about which there was no difference of opinion. However, the paucity of the entries helped to decide the controversy, and at the next show in Birmingham (1853) the two were amalgamated, the bearded and beardless contending for honors in the same class. Still the controversy dragged on, but, as the

ruffed and bearded birds also had the largest crowns, the beardless ceased to be shown, and it is now doubtful whether any could be found. Whether this was a change in the right direction is purely matter of opinion. Saul Dixon liked the beardless birds best, and, judging by their utility, he may have been justified; but, to my thinking, both were equally interesting and beautiful, while the beardless were more easily kept in health, being not so liable to get mud-clogged in wet weather. On the other hand, it does seem a little strange that the blacks with white crests should be allowed to continue beardless, while all the other colors now must have ruffs, beards, and whiskers, as well as large and full crowns. But, then, poultry fanciers give singular names to breeds, and are also a little odd in their likes and dislikes. One point of interest to be noted is that, from the small number of the entries shown, it is evident that fifty years ago the breed was not only scarce, but in the hands of only a few persons. Thus the standard of excellence was, rightly or wrongly, more easily arranged. Though the number of these elegant, useful, beautiful, and peculiar birds was then small, it is saddening to find that there are even fewer to-day. For these really good table birds—these good layers of pure white eggs—these non-sitting fowls—there was no class at the Crystal Palace shows of 1896-9—probably on account of deficient entries. So it happens that another breed is likely to be lost; one that is centuries old, a different fowl from any other. In spite of all its excellent qualities, scarcely any are now kept in localities where at one time their bright spangled forms and rose-like top-head gear made the green and grassy meadows floral-like in beauty. One would suppose there still are fanciers who love and cherish them. There must be, for no birds with so many attractive excellencies can lack some admirers. Is there a prettier sight on a fine grass run than a flock of the old black Polands, shining emerald-like, with their lily-white crests, coral fronted? I have seen many such, and in suitable places they had a distinctive, fascinating loveliness. Perhaps the trouble in finding fresh stock may have had something to do with their decline. Years ago that prince of fanciers, George C. Adkins, of Edgbaston, Birmingham, informed me that he found it most difficult, almost impossible, to get 'fresh blood,' for at that time the firm of Messrs. Baker had ceased to exist, and he thought there was a lack of constitution. Surely, even now, some of the old and true breed might be found in the south of France, though in commerce they are unknown.



From a photograph of mounted specimens

WHITE-CRESTED BLACK POLISH COCK AND HENS

Bred and owned by Charles L. Secly, New York

"In the spangled kinds, great progress has been made in the plumes of the breed, though undoubtedly they have lost in size. From the small, round, often nearly black crown, larger, longer feathering has been evolved, and, with this, more length of hackle and saddle—all adding much grace and beauty to the already handsome, lucrative breed. Half a century ago, there were spangled Hamburgs; a little later on, spangled Polish or Polands were marked in the same way as the so-called spangled Hamburg of the present time, but the spots were round, instead of oval, as shown now. Lacing was also strictly forbidden, except upon the line of the greater wing-coverts. Gradually, and almost unobserved as to time, place, or ownership, the 'spangled' tip has been eliminated, and the 'laced' edging substituted. In this coloring, there is more finished lightness; but with the spangle the feathered forms flashed more brightly in the summer sunlight. Both feather enrichments had, and have, their votaries. They differ widely in appearance, each having its attractions, and it is impossible to decide whether the old or the new form of the black on the feathering

is best. From the spangled there is a decided advance in the tail of the cock, which was previously almost, if not quite, hen-tailed. Now the sickle feathers are long, well-curved, and graceful; the ground color is purer, and the lacing clear and distinct. So it must be allowed that so far the breed is better for being fancier-bred. But it must not be forgotten that it was originally not a fancy fowl alone. On all hands it was admitted to be, and to my knowledge it was, of great and surpassing utility as a summer layer, though the number of eggs was never so great as in the Shanghai and the so-called Brahma. The Polish have now lost prestige with utilitarians, being much smaller, laying a less number of eggs, and those of a smaller size. In 1850, there were the blacks with white crowns. These are now less in bodily size, though larger in crests. The wholly black seem to have got amalgamated with the 'Crève-Cœur.' The wholly white have helped the Sultans, and they still exist as whites; but the blues and blue white-laced, the black, white-laced or spangled, have merged into the Houdans or become 'lost.' The buff laced with white are few in number, but none the less beautiful; and the golden- and silver-laced still have all the attractions that should win for them both friends and admirers, which, it is devoutly to be hoped, may ere long be gained.

"Being non-incubators, for increase, the eggs must be set under other hens, and as the chickens are small, the old English Game is found to be the best for hatching and rearing them. They are queer, odd-looking little things at first, with apparently ill-shaped heads; their colors accord with those of the parents. The young spangled are much darker in their first feathering than they become afterward. In fact, this class of coloring in poultry puts one very much in mind of the seedling tulips, which are self-purples, reds, or browns, as breeders, and only at a certain age break—to reveal their latent beauty. So with spangled or laced chicks; some that are very light when in the down-state become eventually the darkest of the whole brood.

"As the chicks grow, they must be examined often for insects, to which they are subject, especially about the head; and insect powder [should be] carefully used. The loss of many a chicken is due to inattention in this respect, though ascribed to delicacy in the breed.

"As soon as the crowns or crests are developed, it is best to cut them off at the sides, allowing a blunt, somewhat high top center. It is not

well to cut off the whole, as it shelters the head at a part where the skull is apt to be entirely deficient.

"After the chicks have got the full growth of their head or crown feathers, they are generally safe, and, if properly fed and attended to, will mature fairly fast. Rules never to be neglected are: regular times for giving food; keeping the fowls dry, and on dry ground if possible; not letting them run in long, wet grass or weeds, which generally prove fatal.

"As chickens, they are particularly active, very quick in searching for and catching insect life; so they should be placed where they can obtain it. The cockerel chicks are somewhat disposed to be quarrelsome. To prevent injury, it is well to transfer them to another place, if old enough to leave the hen.

"In shape, the Poland fowl should be well proportioned. The body should be rather long than otherwise, with a full, well-rounded breast, shaped more like that of the old English Game-fowl than the Dorking; back, broad between the wings, growing narrower toward the tail; thigh and legs, medium length and plump, the shanks neither extra long nor short; wings, long; tail, ample, full-sized, and not carried too high; neck, medium length; head, rather small, surmounted by a large globular top-knot, set well toward the front of the head; head, narrow, the beak having large, cavernous nostrils, rather more straight than curved; eye, full, large, and dark. If not bearded, the comb should be very small, and consist of two small horns; the wattles thin, rather long, pendulous, and coral-red. If bearded, it should be large, full, hanging well down and forward, with whiskers which should be distinct, joined to, but reaching along the face to form part of the ear-covert. When this is fully developed, the fowl is called well-bearded and muffled. The black with white crests are self-colored, with the exception of the crest, which should be of a clear white. Had this variety been properly and carefully bred, it would have proved as good a table fowl as the Houdan, if not better. Of the modern fanciers, the late Joseph Partington possessed some wonderful birds, which, he informed me, were not only good for the table, but abundant layers of white eggs."

POLISH FOWLS UP TO DATE

The best fowl is the fowl one loves best, whether its virtues be many or few. To their admirers, Polish fowls are of the "Four Hundred,"

making no appeal to the utilitarian, but only to the fancier. Their feather markings and peculiar crested heads, perpetuated for centuries in the same likeness, proclaim them to be unquestionable aristocrats. In some varieties, the Polish fowls of to-day differ not over-much from those of early history. White-crested Blacks preserve the same characteristics in every



BLUE POLISH COCKEREL
Bred and owned by H. L. Clapp, Massachusetts

From a photograph

section, although the birds bred thirty years ago were larger and heavier than those now reared. The same might be said of all varieties till within the last few years.

Silver Polish and White-crested Blacks, thirty years ago, were equal to the best shown to-day.

Eighteen or twenty years ago, one would look in vain for laced Polish of any variety fit to show at all. To-day they are again

preëminent in every variety, as leaders in beauty and in the highest attainable qualities, among exhibition fowls. Their very noticeable race characteristics place them far beyond the ordinary and attract attention always to their uniqueness. The cause of their degeneration and regeneration can be explained in a few words: nonsense *versus* common sense in breeding methods.

Why Polish fowls had degenerated during the ten or twelve years

up to 1880 was simply from nonsensical "fad" breeding, or breeding to increase size and shape of crest or beard, with hardly any consideration for color, markings, or stamina. Birds bred upon that idea evolved the above-named points nearly to the ideal, regardless of health, strength or family lines. Blind, unintelligent inbreeding, carried on simply to produce their chief characteristics, resulted in their almost complete ruin. About this time, Polish admirers awoke to the fact that their favorites were likely to become extinct, unless radical preventive measures were taken.

Radical measures were taken; but, strange as it may seem, for the first few years there was no concerted action of fanciers toward this end. Different breeders, unknown to one another, chose their favorite variety and proceeded to build it up along natural lines, to reestablish the fowls in vigorous strength and beauty, with their chief characteristics and color markings unimpaired. Five years ago the American Polish Club was formed—a grand step in the right direction, of which the Polish fowls of 1904 are proof. No show is now complete and up-to-date without the Polish alley of the eight varieties, displaying the full tide of scientific breeding and splendid vigor. Thus has the regeneration of one of the oldest-known breeds been accomplished.

As an admirer of Polish, my first fancy leaned toward the laced birds, or to the so-called spangled Polish. Thirty years ago, laced Polish were common, the spangled being simply laced stock degenerated ten or twelve years later. Since my first sight of a trio of Silver-laced Polish, I have known my favorite breed, but years passed before I again saw Polish in any variety.

HOW I IMPROVED ONE STRAIN

In 1886, I found a very ordinary pair of plain golden-spangled Polish, and, with my ideal of twelve years before fixed in my mind, I determined to produce in time as good Golden as were those Silver I had seen in earlier days. First of all, I had to submit to certain natural laws and lines, which, I reiterate, must be observed to win success. The results attained amply exemplify the law of the "survival of the fittest." My first pair was known to be seven or eight years old. Being aware that the breed was reputed to lack vigor and hardiness, and having noticed that mongrels and cross-breeds were the strongest of fowls at that time, I resolved

to produce Polish as hardy, by the same methods, except in the use of the same breed in my out-breeding. I reasoned that for the first few years I should let feather markings and crest take care of themselves, till I had established vigor and stamina in my favorites. Therefore, I procured a cock of the same breed, vigorous as possible, without regard to markings or crest, and bred him to the old hen. The first year I set over fifty eggs, hatched 40 chicks, and succeeded in raising one pullet which seemed to have the strength and vigor of all the thirty-nine other chicks combined. The next spring I procured a cockerel which was a sport from the Bearded-goldens "without beard," and bred him to the two females and five others I had purchased—all spangled. The cockerel was nicely laced and just the bird to my mind. That year I set 200 eggs and raised five chicks from twenty-five hatched. They were very strong and vigorous, with feather markings tending toward the ideal. By this time I felt I had worked well in the direction of stamina, and proceeded to establish another family by buying another cockerel not related to any blood I had and mating him to part of the females, breeding the first cockerel back on his own pullet. The next season returned splendid results in hatching. Chicks of both strains were as hardy as wild birds, nearly every chick coming to maturity. Now the problem of problems confronted me. How to keep this stamina and vigor and still perfect the color markings and crest puzzled me. By this time chicks from both families were quite numerous. I had taken pains to keep the eggs separate while hatching, and I knew the chicks from each. Following the advice of an older breeder, I punch-marked, according to family, every chick as soon as hatched, and kept records.

To preserve the vigor, I reasoned that the strongest and most mature young male of one family should be mated to hens (not pullets) of the other family. The results proved my reasoning correct by an increase of markings toward the standard ideal. So on, year after year, I have bred from male birds widely removed in blood-lines from the females, and to-day, without having, for years, used any new blood outside of my own strains, I have Polish that are as vigorous as the utility fowls, and that carry the colors of the Standard as they should. I can truthfully say I never have 5 per cent. of culls in any year's breeding. The chicks hatch out like quail, and are as active and hardy as Plymouth Rocks.

My experience with this one variety has been duplicated by other

breeders with White-crested Blacks, Silvers, Whites, and with the beautiful Buff-laced Polish.

It has been said that Polish, as chicks, are susceptible to wet weather; that many die therefrom, where other chicks would live and thrive. In eighteen years' breeding, I never gave the fact more than a passing thought. Vigor and stamina in flesh, blood, and bones are nature's safeguards against wet or dampness. When roup ravaged my Plymouth Rocks, the Polish came through without a single sick bird. As regards lice or other vermin, cleanliness is the ounce of prevention. For the chicks, I use a grease preparation sparingly three times in two weeks, on their heads, around the poll and underneath the wings. I dust the hen with a good lice powder, but not on the same day that I grease the chicks, for fear of combining the grease and powder to the possible detriment of the chicks. Many breeders cut off the crest and face-beard feathers of the growing chicks, and also of the breeding stock, claiming more vigorous chicks and hardier fowls thereby. I have experimented in that direction on adult birds, too heavily crested, with excellent results.

Polish chicks should never be raised with chicks of other breeds. Because of their crest obstructing their sight, they are not aggressive, are easily brow-beaten, and, therefore, suffer through lack of food and contentment, both necessary to constant and steady growth. By following



Photograph by Prof. W. G. Johnson

WHITE-CRESTED BLACK POLISH COCK

Bred and owned by C. L. Seely, New York. First at New York, 1902

these methods, I have brought cocks to weigh from four and one-half pounds to five and one-half and six pounds each; hens from three and one-half pounds to four and five pounds each; many cockerels, six pounds at six months old.

As layers, my experience shows the Polish to lay as many eggs as any other breed; but they lay them all within six or seven months, generally from March to November. The eggs are snow-white, weighing from twenty-six to twenty-eight ounces per dozen.

In breeding the laced varieties, care should be taken to breed from the cleanest-feathered specimens. Never breed from a spangled bird, and avoid those with mossed feathers, although they are preferable to the spangled, being always well laced.

It is the bird perfectly and clearly laced, with ideal crest, etc., that breeders are looking for; not the narrow lacing of the Seabright nor the various-sized lacings of the Wyandottes, but a good clear lacing on each feather, in perfect proportion, in each section.

Among Golden, one thorn in the flesh of Polish breeders is the tendency to white wings and tail of adult birds. This can, in a measure, be overcome by careful selection with that end in view, although, as long as adult birds are allowed white in their crests, the white will crop out elsewhere.

One noticeable fact is that the best-colored and best-laced Golden have this tendency, whereas a spangled cock or hen never has it. Because of this, beginners with Polish invariably take up the spangled birds, but the first year's breeding reveals their mistake.

Spangled stock deteriorates in all the attributes that make up a first-class Golden. The same can be said of Silvers and Buff-laced.

Again, some breeders will discard a bird that is too dark in lacings, or has lacings that are too broad, giving the appearance of solid black in some sections—notably on breast and body, and sometimes on the back of females. But these are the birds that will keep in check the inclination to spangling in Silvers and Golden.

The color of Golden Polish should be a deep gold, approaching mahogany red. Otherwise, the color is apt to fade out in young stock. The deeper the golden color the richer the appearance of the bird.

In Golden and Silvers, the black lacings should have a greenish luster throughout, indicative of high breeding and vigor.



PRIZE-WINNING GOLDEN POLISH COCK
Bred and owned by the late Joseph Partington, of England

From a photograph by Hedges

CAREFUL SELECTION AND BREEDING

Other things being equal, the value of the laced varieties depends upon their lacings. First in value is the perfectly laced bird, the lacing completely encircling the feather in every section, except in the back of males as per Standard.

Second in value is the bird with too broad and deep lacings, which

at a distance gives the appearance of being a solid color; always a first-class breeder, because the young are always laced and of standard color.

Third in value is the bird of spangled or imperfect lacings, the lacings



From a photograph by Thomas Gates

PRIZE POLISH COCKEREL
Bred and shown by Frank Rice, of England

partly encircling the feather till the end is hidden by feathers overlapping, thus producing a surface appearance of being perfectly laced, but close inspection reveals the imperfections. Such birds, in breeding, tend to lose the lacings in each generation. They are, therefore, always detrimental as breeders.

In choosing a male bird for a breeder of the laced varieties, notice the small feathers on the inside of the wings and where

back joins hackle. A bird well laced in those sections will always sire first-class, well-laced birds. In Golden and Silver, females sometimes have crests nearly black, especially those with deep, heavy lacings. Mate such hens to a male with well-laced crest, lacking somewhat in breast lacings. In Buff-laced, there is the white to overcome, and, unless judgment is used in mating, the flock will soon become a faded yellow or a dirty, streaky white.

To keep up the color, breed from males several shades darker than the standard, but well-laced in every section. Bear in mind that breeding parti-colored fowls is like mixing colors in paints.

Use common sense in breeding to offset too much or too little coloring in the birds, and the general quality of the fowls will be up to standard in any of the varieties. Keep an eye on the crest, shape, and color. Re-

member that a Polish is not a Polish without the crest. Body lacing and color do not always make a winner of a bird with a pinched or ill-shaped crest. On the other hand, a bird devoid of standard markings with a perfect crest is not to be chosen in place of the well-laced but poor-crested bird.

To secure crests of standard shape, etc., breed from birds with natural absence of comb, because combs more or less cause the crest to grow upright in front and irregular in shape. Some breeders cut off the comb



From a photograph by Hedges

GOLDEN POLISH HEN

Winner of many prizes. Owned by the late Joseph Partington

to bring the crest into shape. It is needless torture, as the roots of crest feathers are influenced by the base of the comb. Encourage the clear white ear-lobe, which indicates purity of blood, and preserve the deep-blue color of shanks and feet.

Coal-ashes in coops or yards invariably cause shanks and feet to bleach out nearly white, and are said to induce scaly legs also.

In White-crested Blacks, white or gray in wing-flights is often a source of annoyance to breeders, but experience has shown that it is generally after molting that it appears. When the birds thus disfigured are given

a little extra time to complete their molting, the trouble disappears entirely, provided, of course, that the strain is well-bred and vigorous. In poorer specimens, it always remains, seemingly, a badge of weakness and inferiority. Aim to preserve the snow-white crest, with only the narrow band of black in front, as per Standard. Keep good size and good shape in view always. Many crests have a grayish-drab tinge on the feathers, which is quite objectionable, especially in adult birds. Young birds, if well-bred, will molt it away.



From a photograph

PLAIN SILVER POLISH HEN
Winner at many shows in 1904. Owned by Cutting
and Estes, Massachusetts

In choosing birds for breeding or for show, never be blind to the general make-up of the specimen. Study the allotment of points in the Standard relative to each section, and choose according to the general summing-up. Otherwise, fad breeding will gain in possession, and that works ruin in any variety.

In the white varieties, more inferior birds are shown to-day than in any other sort of Polish, but there are breeders who bring them to the high standard of the others, preserving the snow-white, stay-white plumage, the grand, well-shaped crests and beards, with the shape of body typical of the breed. The defects most frequently met with are small, irregular crests, large beefy combs, resembling miniature elk-horns with their many sprigs and prongs, brass in plumage of cocks, gray or drab tinge in plumage of hens.

Careful breeding by selection will, in time, eradicate these evils. It has been done with the other varieties.

CARE AND MANAGEMENT

In raising Polish chicks or breeding fine Polish fowls, no satisfactory results can be obtained unless good care is taken in every particular with regard to feeding, breeding, and cleanliness. No fowl known to me shows abuse or neglect so quickly as the Polish. In my own yards, as soon as the breeding season is over, every male is penned by himself away from the hens, having access always to the earth, and he is kept thus till show-time, or till molt is complete.

Exhibitors should always keep in mind that condition is a big factor in the show-room. Broken or mussed feathers, lack-lustre plumage, scaly legs, or a general appearance of lack of care, will cause the best specimens ever bred to yield the prize to a fair ordinary bird well cared-for and in good condition. In showing a string of Polish, find the best male and female in the string, and choose every other male to correspond as nearly as possible to the best male, selecting the females in like manner, in order that the string in both sexes may be as nearly alike as so many peas in a pod. Thus matched, first prize means second, third, and fourth also. Uniformity of breeding to the Standard counts with the public, the possible buyers, and with the judges. They make up public opinion in the poultry world. Never show an inferior specimen simply to fill a class. It works harm and is of no benefit. Keep to high ideals. The birds on dress parade, well fed and well groomed, with good breeding, make a combination hard to beat.

In caring for Polish fowls, have roosts low enough to prevent their crests from rubbing against the roof. When shipping birds, observe the same rule in the height of coop. To keep them clean and in good condition while in confinement, especially Whites and Silvers, cover the floor of the house with about six inches of rye straw. Use a water-jar to secure the crests against becoming wet. It also prevents wattles in plain varieties from getting frost-bitten in cold weather, as they would be if allowed to become wet.

To prevent disfiguration of crests by feather pullers, take a red-hot iron and burn off the sharp edges of the culprit's beak, about one-half inch back. This hinders the beak from closing tightly at the point, where the

fowl grasps the feather. Burn the edges, but do not cut them. If a knife is used, the edge soon grows again.

In closing, I desire to emphasize the main points: good care, common sense, perseverance, and a true fancier spirit. Our favorites are called the beauty breed, and our aim should be to keep them worthy of the name.



PLAIN GOLDEN POLISH HEN

Bred and owned by W. H. Card, Connecticut

From a photograph

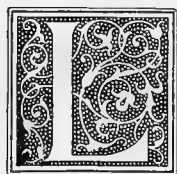


RED BLACK-SPANGLED HAMBURGS.

The property of Mr. HARRISON WHEAT.

THE HAMBURGS*

CHARLES ELDREDGE, New York



LONG before what we now call fancy fowls were known or recognized, in fact, long before the memory of any person now living, Hamburgs were kept and bred to feather among the peasants of Yorkshire and Lancashire in England, and by them exhibited at the small town and country fairs in their neighborhood. Of course, they were then known under different names, the Blacks being called Black Pheasant Fowls, and the spangled varieties Lancashire Moonies and Yorkshire Pheasants; while such a variety as the Penciled Hamburgs were either wholly unknown or else were so little thought of that they have left no record of their origin, if, indeed, they are native of England at all.

Mr. Wright, who has traced these fowls back still further, inclines to the belief that at some period whereof we have no knowledge the penciled varieties formed a part of the Hamburg family, although our earliest positive knowledge traces them to direct importations from Holland, where they were brought in great numbers, and were originally known under the names of Dutch Every-day Layers, or Dutch Everlasting Layers.

As such a thing as a black-spangled variety of this fowl was utterly unknown in Holland, it is presumable that at some period the penciled varieties were exported to Holland and there bred and cherished, while they were allowed to run out or sink into insignificance in England. We cling to this belief so tenaciously on account of the wonderful similitude which marks the characteristics of the Hamburg family, in spite of the fact that one branch came from Holland and the other is emphatically English. These two branches, namely, the Penciled and the Spangles and Blacks, resemble no other varieties of fowls in the slightest degree, while their common characteristics are the absence of the incubating instinct, clean, slender legs, neat rose-combs, small, round and white-ear-lobes, and

* This chapter on Hamburgs has been entirely rewritten by Charles Eldredge, of New York, one of the best-posted experts on this breed in this country.—EDITOR.

the light, but sweeping and graceful lines of form which are wholly their own and unapproachable by any other breed of fowls, no matter how fine their symmetry. If this were not enough to stamp them with certainty of having one origin, we mark the fact that spangled chickens are frequently penciled in their first feathers; while, as they mature, the black spangles, or moons, are often surmounted by a light tip beyond them, thus again approaching the penciled character, while conversely it will be found that, if penciled birds be bred too dark, the last bar has a strong tendency to become too wide, this approaching a spangled character.

If we consider the utter want of interest with which poultry was regarded in the earlier days, and the fact that no traditions of any account relating to fowls have been handed down, we may be justified in believing that these facts prove our conjectures in regard to the original identity of these varieties to be correct. From whence their common progenitor came we can have no idea, but that they did have one we strongly believe. It may have been that they came from the Blacks, as that variety is thought to be the oldest, and a cross might have resulted in the broken color, or, possibly, these Blacks having a number of white feathers may have been bred together until a distinctly marked plumage had been obtained.

Bearing in mind, however, that Aldrovandus speaks of a fowl which strongly resembles the penciled variety as *Gallina Turcica*, it is possible that the Penciled was the original, and, as the name suggests, is of Eastern origin.

These conjectures and hypotheses are perplexing and unsatisfactory, and are really of no practical value, being of use only in affording another instance of the fascinating problems which constantly present themselves to the poultry fancier of a philosophical and inquiring turn of mind. This much appears to be certain: that, of all our many varieties of fancy fowls, the Hamburg is by odds the oldest; indeed, Mr. Wingfield claims that old records show that fowls with all the Hamburg characteristics were bred in the yards of monasteries as early as the fourteenth century.

At the great Birmingham show, the authorities there, recognizing the general resemblance between the Penciled, Spangled, and Black varieties, and the inconvenience of their numerous and varied appellations, grouped them together under the general name of Hamburgs, by which they have been known since, fanciers accepting with alacrity a name which was at

once convenient in classing the breeds and which brought the separated members of what was no doubt a distinct family together, as it is most certain they belong and should be arranged.

Many breeders who have no knowledge of the deliberations at Birmingham have been puzzled to guess why the name Hamburg should have been chosen to designate a family which was mainly English; but these "fathers of the fraternity" had too much business to transact to allow them to inquire very care-

fully into the early history of this fowl. The Rev. E. S. Dixon proposed "that, as the penciled varieties were then imported by the Levant merchants from the port of Hamburg, they should all take the general name of Hamburg," and, indeed, this term is as euphonious and convenient as any other could be.

Mr. Theodore Hewes says in his "Book of the Hamburgs":

CHARACTERISTICS OF HAMBURGS

"In usefulness and beauty the Hamburgs stand very prominently amongst that numerous collection of fowls which our broad nomenclature denominates 'fancy poultry.' The plumage of every variety, either Penciled or Spangled, Silver, Golden, or Black, is at once beautiful and striking, attracting the attention of strangers to the poultry yard or exhibition room when all other breeds have failed to interest them, and drawing from them involuntary tributes of admiration. And if they are so much admired by cold and superficial observers, surely the Hamburg fancier may be pardoned for his unbounded enthusiasm for his favorites when



Photograph by A. W. Scott

GOLDEN-PENCILED HAMBURG HEN

every season and nearly every day unfold new beauties in his birds and renders them more fascinating and delightful to his eye. The exquisite symmetry, the novel and shapely rose-combs, the snowy and delicate earlobes, the tapering blue legs and graceful carriage, give them an aristocratic and 'dressed-up' appearance and render them the most beautiful of our domestic fowls.

"The Hamburg fancier has plenty of scope in which to indulge his taste, the different colors and markings affording an ample variety from which to choose, while the general characteristics are the same.

"'Hamburgs,' says Mr. Beldon in Lewis Wright's poultry book, 'are without doubt the most beautiful breed of poultry we possess, as well as the most useful, all varieties being alike elegant and beautiful. The dweller in the country will generally prefer the Silver, while the citizen will take the Golden or Black; but all of them, in their matchless variety of marking and color, will delight the eye with the utmost degree which is perhaps possible of beauty in fowls. Their marvelous beauty, however, would not recommend the Hamburgs to the practical breeder so much as their wonderful egg-producing qualities, which, it has been claimed, surpass those of any other breed. The wonderful stories told of Hamburg productiveness, while often more amusing than reliable, serve to show that in any hands, in any climate, and under the most adverse circumstances, they have proved very profitable to their owners, while with ordinary care they are the best of layers.'

"The average Hamburg pullet will begin laying at four or five months of age, and will lay from 150 to 200 eggs the first year under favorable circumstances. The second and third years' hens will average from 175 to 225 eggs when properly cared for, and from the third year their productiveness gradually declines, although one reliable breeder asserts that he once owned a Black Hamburg hen which at five years of age laid 220 eggs in ten months. A great deal depends upon the strain of birds and the care they receive, as, if productive traits are cherished and carefully bred for, the number of eggs may be greatly increased, while neglect to properly cultivate this quality by careless and incompetent breeders will result in a marked decrease in productiveness.

"The absence of the incubating instinct has much to do with the productiveness for which Hamburgs are noted, as no time is lost in sitting or brooding the chicks. Some breeders claim that Hamburgs *never* attempt

to sit. This is incorrect. We have known cases, although we acknowledge they are rare, where Hamburg hens have hatched and reared goodly broods of chickens, in every case proving themselves steady sitters and excellent mothers; nor was there a particle of tainted blood in their veins, these being merely cases where that wonderful instinct which is common to nearly all fowls will 'crop out' occasionally in every variety of non-sitting fowls. It is not necessarily due to a former cross, but may be occasioned by 'reversion,' to which we attribute everything that we do not understand in nature's domain.

"This non-sitting instinct is of double value to the Hamburgs, as they do not lose half their feathers during incubation, but maintain their sleek appearance through the entire season, and when they do molt they molt easily and rapidly, seldom or never being left for a time denuded of feathers, as are most other breeds, but the new feathers making their appearance as the old ones drop out, so that they are never an eyesore to their owners. Indeed, they seem to change their coats so easily that it is no rare thing for hens to lay as steadily during this ordinarily trying process as at any other time. They should, however, have an extra allowance of feed at this time, and a little tincture of iron in their drinking water or a few rusty nails placed in the drinking-pans will strengthen and tone up their systems.

"To do their best, Hamburgs should have free range. Mr. Beldon, though greatly overdrawing their need for this luxury, attaches so much importance to it that he says: 'They are of little use penned up, in which state they pine and mope for liberty; that bright cheerfulness which is common to them disappears, and, from being the happiest, they become the most wretched of birds.'

"Though Mr. Beldon may have found this the case, our own experience has been that no small breeds of fowls will stand the tedium of a long and severe winter in close quarters better than the Hamburgs. In fact, all you need is to keep them busy, and they will seem happy and contented. Still, the larger the grass run they have in summer the greater their productiveness and the better they will do. They are very small eaters, and when at liberty are excellent foragers, being up at break of day and away rummaging the fields and pastures in search of food. Their quick eye at once espies their prey, and 'woe to the poor worm that happens on that particular morning to have got up a little too early.' Every corner is

searched with indefatigable zeal, and by the time the man gets around in the morning to feed them they have made a good breakfast and are ready for the business of the day. Perfect liberty or a large grass run are valuable adjuncts to health and egg-production. Give it to them if you possibly can.

"As a rule, Hamburgs are a healthy breed, being little subject to the common ailments of poultry. One of our correspondents writes: 'They are remarkably hardy, often enduring with successful fortitude hardships that to other breeds mean disease and death. I have had young Hamburg chicks pecked by the mother of a rival flock and virtually "scalped" in her insane jealousy, the skin being torn from the head down the entire back, and yet the youngster would trot around as lively as though nothing had happened, and not only get well but flourish. Sometimes the feathers would grow out upon the "skinned" place, and sometimes it would always retain a smooth appearance. I have now a hen, which we consider one of our best breeders, without a vestige of feathering upon her entire back, owing to a like accident in her youth. The chicks are very easily reared. Of course, they must have proper care, as they cannot rear themselves; but, with a moderate degree of attention, no trouble will be found in raising them to maturity.'

"Taken as a whole, we consider the Hamburgs as hardly excelled by any other fowl for the farmer, fancier, or poulterer. On a good homestead they will keep themselves, and, if well attended to, will pay better than any other farm-stock in proportion to the investment. In fine, I feel perfectly safe in an assertion that in no one breed will be found so much beauty and usefulness, and so many excellent qualities, as in the several varieties of the Hamburg family, while in the one item of egg-production they stand to-day where they did hundreds of years ago, unrivaled by any domestic fowl.

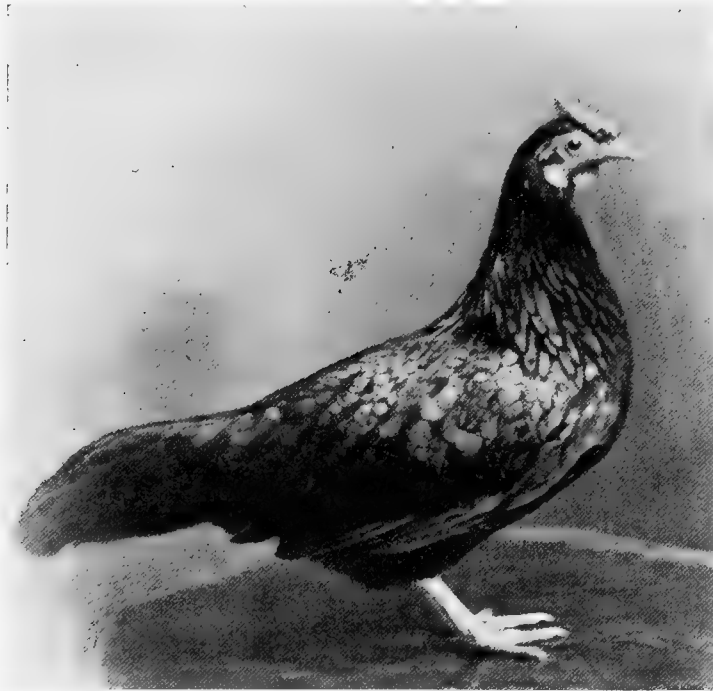
"This is a statement of one who is full of enthusiasm, but it may be noted that only a superior breed of fowls would excite so much commendation in a breeder who has been familiar with them from his youth."

THE SPANGLED HAMBURG

"This beautiful variety of fowl," Mr. Weir says, "consists of two or more ground colors—the gold, the bay, the blood-red, and the silver—none of which are from Hamburg, nor from any foreign country, but are entirely of English manufacture. Most likely, they emanated from the

careful selection and breeding of the old English Spotted-breasted Game, with the Dutch Every-day Layers, now called Penciled Hamburgs. From what breeds or crosses they were actually obtained possibly will never now be known, but it is generally admitted that the old English Game contributed very largely to the beautiful fowl now called the Spangled Hamburg. Having kept the Spangled Hamburg more than fifty-five years ago, and again lately; and having seen many of the old Spotted-breasted Game, I have come to the conclusion that the latter had much to do with the origin of the former. In the first place, the Spangled Hamburgs are most incorrigible fighters, surpassed in courage only by the warrior Game-fowls. Two of mine fought until neither could stand, and when found were lying on the ground covered with gore, mud, and dirt. Even as they were then lying, they shuffled toward each other, tearing and pecking at the ragged, bleeding combs until, faint with the loss of blood, they both became insensible. One died, and the other took weeks to recover. Nor is this an isolated case, for they have been actually pitted against some warrior Game of the best fighting blood, and have maintained the fight with such prowess as to leave the issue a matter of considerable doubt, very nearly placing their adversaries *hors de combat*. In breeding, Game-cocks were specially used, and even now the Hamburgs occasionally revert to the brown-red or ginger-breasted reds of 'the old Game'; and so also with the Silvers even to this day. In a single clutch of chickens more than one may have a single comb and ear-lobes nearly white; white shanks are produced from time to time, apparently from no other cause than that of reversion or atavism; and this is not surprising when certain peculiarities of breeds reintroduce themselves after having been apparently non-existent for a number of years. Take, as an instance, the breed of White-shanked Game-fowls. After coming pure for perhaps more than twenty years, they will throw three or four clear, yellow-shanked birds, and after that produce only white-shanked again. Thus it is with the Spangled Moonies, or Pheasant Fowls, now called Hamburgs. Another curious fact is, that if a single-combed bird (a pullet) is bred, and put to another strain of rose-combed birds, among the young there will often be as many single as double and rose-combs. This may be perhaps a partial reversion to the single comb of the wild bird, so that there is a prepotency in that direction. A single-combed pullet was bred from my Golden Spangled, all of which had had rose-combs for many generations. Put with another

cock of a different strain, she produced several single-combed birds, one of which was a cockerel, but all were well marked and rich in moons and ground color, though those with the single combs had ear-lobes nearly red. Although my Golden Spangled were of a deep, almost blood-colored ground, like some of the old Red-breasted Game, they one and all maintained the beautiful moon markings that have always been so much in demand. One very curious peculiarity, clearly noticeable in two or three



Photograph by R. Whitehead, Kettering

PRIZE BLACK HAMBURG HEN
Owned by Charles Holt, of England

of the cocks, was that, although their sickle feathers were black, they were marked throughout with transverse bars of green and purple iridescence, which showed very plainly in a strong light. This might be accounted for by the birds at some distant period having been crossed with a Hentailed or

Henny-penciled Hamburg or a Dutch Every-day Layer. The Hentailed cocks of this variety were barred like the hens, some being scarcely distinguishable as cocks. It is on record that a Hen-coated Penciled cockerel won as a hen at several shows before its owner discovered the sex.

"As far back as the early forties, and even earlier, there were Hentailed Spangled cocks of the silver kind, and some few of the golden. The

former were clear in the tail, while the latter were not, but more resembled in character the old English Game-Hennies, and for years it was contended that the hen-tailed cocks should be adopted as the standard. After much wordy warfare, the advocates for the long and graceful sickle-feathered birds won the day, and now, rightfully, the hen-tailed cocks are ignored. One reason (and that was a strong one) alleged for not retaining them was their non-productiveness, though some, when matched to hens whose eggs had always proved fertile, no longer bore the stigma. The Moonies consisted of two varieties, one having the round and full moons, and the other what were termed nut-shaped moons. It was always considered desirable to breed cocks from the former and hens from the latter. Then, as now, for exhibition purposes two or more pens were necessary to produce the best of either sex. It simplified matters, however, to keep light and heavily marked hens with a properly marked and round-mooned cock. Much skill was necessary in the selection, besides a knowledge of the antecedents of the particular strain used. The late Mr. Beldon used both the hen-tailed and the full-tailed birds in producing his beautiful stock. The old hen-tailed bird had no neck-hackles or sickles, or side sickles to the tail, but was like a hen in all respects, though the comb, wattles, and the leg spurs were larger. James Dixon, an old breeder of the Spangles, states, in 1850, that he had both kinds, and had bred from them for more than ten years. In the early days, Lancashire Moonies were used for hens and Yorkshire for the cocks. As regards myself, mine were bred all from the same pen, as before stated, and I think it is possible to do so now, though it is the practice to breed from separate pens. I found one hen in particular always bred good cocks; another would sometimes; three others never did; while all the pullets were excellent. At one time, the plumage of the spangles, especially the now-termed Golden, had a blood-red ground, or a rich mahogany color, beautifully marked with black moons, and an emerald-green gloss, so that, as the birds turned about in the sunlight, the two colors flashed, changed, or intermingled. The Pheasant fowls were more of a brilliant orange or deep bay color than the Moonies, which would be considered 'off color' if they showed the same.

"Here I may notice that there is a distinction between the two breeds, the Golden and the Silver. The Silver, both cocks and hens, have clear or colorless tails, while the Golden have black tails. This, I think, is wrong.

Both should be the same as to markings, whatever the ground color may be, and it is a wonder that the fanciers of to-day have not tried to remedy the fault of the black tail—for a fault it decidedly is—by clearing the ground color, and having only the black, full round moon at the end of each feather, as in the Silvers. I feel certain that it would not be difficult, for I succeeded with one or two hens in getting the first three feathers of the tail colored and spangled at the tips. It has been accomplished in the Seabright Bantams and in the lacing of the Polish fowls, though not as yet in the Wyandottes; but then the latter is a breed only in its infancy, and capable of much improvement.

“Another point worthy of consideration is, whether or not there shall be a subvariety of golden ground color, as well as of the bright deep mahogany or chestnut color now in vogue. That is to say, a ground color of pure, clear, bright orange, marked with black moons, with brilliant green sheen, like some of the Indian beetles, or our well-known green beetle, commonly known as the green June rose-bug. Had opportunity, time, and space been at my command, I feel confident that in a short time some red- and black-spangled Hamburgs (now called golden) would have been produced with clear tails and moon tips. The modern rose-comb is objectionable, and not in harmony with the general contour of the bird. The old form was better, slightly higher in the center, giving a fuller and richer appearance. It should be remembered that no rose is considered of good shape among rosarians that is flat in the center, and, therefore, a raised rose-comb, like a rose, must unquestionably be the better of the two.

“Again, the old size of the ‘Mooney’ markings was, to my thinking, preferable to the much larger of to-day. Each black spot overlapping the next, as they do now, gives the bird frequently the appearance of having a black breast streaked with white or red, rather than a white or red breast spotted with black; either style has a very rich effect, but the latter is, if anything, the brighter. It is but a matter of taste, after all, and when a judge prefers the one to the other—and he happens to be much in demand—the style of bird in that particular district soon becomes altered, and, to the thinking of some fanciers, not improved.

“As regards the variety now ‘in the fashion,’ namely, the old Yorkshire Mooney modernized, it is very near kin to the Lancashire pheasant or Pheasant Moonies, which, as before stated, no doubt originated with the

Spotted-breasted Game, probably crossed with the Dutch Every-day Layer, or Penciled Hamburg. It was surmised that the Hennie Game was the kind of cock used, from the frequency of hen-tailed cocks being at one time so prominent that it was strongly argued that such tails were the only correct form, and that clear white tails with the large round moons at the tip of each feather could not otherwise be obtained. Certainly, when I kept White or Silver-spangled Moonies fifty years ago, such a thing as an entirely clear tail was scarcely to be found, though common in the Lancashire Silver Pheasant breed. A happy blending of the two in skilful hands was at last successful; nor was it so difficult to get the white ear-lobe as the modern writers declare. Many of mine were perfectly clear in this respect, though the lobe perhaps was not so full and thick as some of the best at the present time; nor were the markings so large, though quite as round, as on the Mooney of to-day, miscalled Hamburg. They were rather bigger fowls, though no better layers, it has been asserted, than some of our exhibition highly bred and selected strains. Mine, being in a confined run, did not have such advantages for egg-production as those at liberty over a wide range. Nevertheless, although three were old hens and only three were pullets, they averaged in 1896, from March 1st until the beginning of July, five eggs a day, and were in 'full lay' when, for want of room, I was reluctantly obliged to part with them.

"Years ago, the Yorkshire Mooney was the favorite breed, though some fanciers believed that the Lancashire Crescents were as difficult to produce clear in ground, with markings shaped like those on the breast of a pheasant. Both were called Moonies, except in their particular localities, and even in Lancashire the Crescents were sometimes called Half-Moonies. Much ignorant writing on the subject has led to many wrong statements concerning the breed, each writer copying from the preceding one by setting down as points of excellence those given by people frequently unable. It was B. P. Brent, a thorough fancier, who, in the *Poultry Chronicle* and elsewhere, pointed out clearly that certain breeds, passing under various names, were not all of one kind, as then and even now asserted, but were absolutely distinct, so that they could not be interchanged in the breeding without the loss of beauty and the distinctive points of excellence. Thus it was that the Bolton Bays, though spangled, were sometimes called Bolton Bays when they were 'penciled.' When the Moonies were called Hamburgs, they naturally became connected with the Dutch Ever-

lasting Layers, which, in the first instance, were said to have come from Holland. Previous to 1849-50, the now-called Polands (Polish) were the only fowls so called, the Spangles and Crescents being entirely an English breed; but since that time they have been crossed and re-crossed with the penciled varieties. For many years previous to the Birmingham show, the Moonies, the Crescents, the Corals or Redcaps, and the Pheasants had their admirers, and clubs were formed for breeding these to their respective ideals without reference to any written law as to what they should be. The prizes were a copper tea-kettle, a saucepan, a warming-pan, a silver bell, and sometimes a plum cake. Thus arose the saying, now so common among northern and some other poultry fanciers, 'That is the one that will take the cake.'

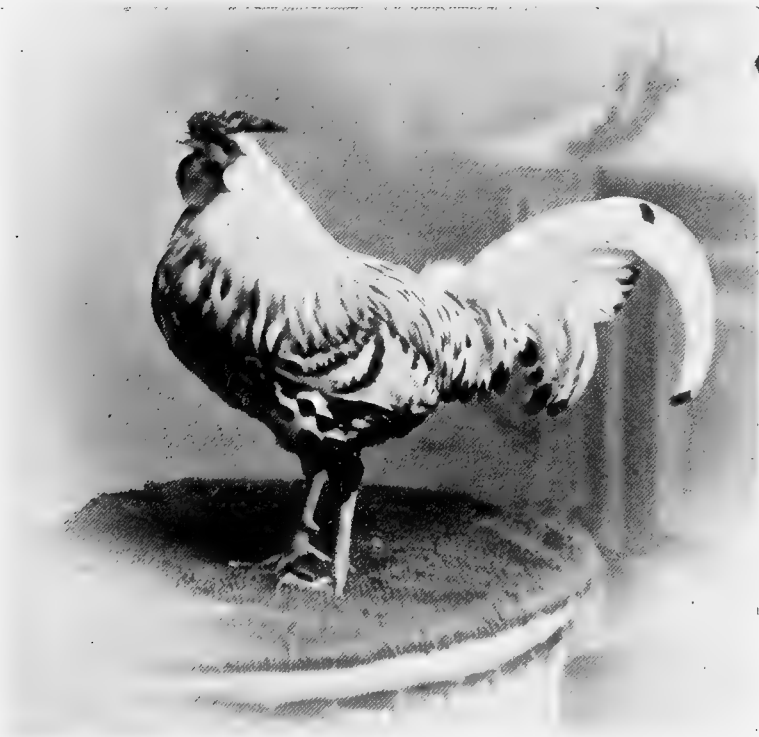
"What has yet to be achieved is a clear red or golden tail, with the black moon in the gold variety not all black, as now, but like that of the silver. I am quite satisfied that it can be done with time, patience, and judgment. It would be well to begin by putting a Silver cock to some rich chestnut-colored Black-spangled hens. A few of these would possibly produce clear or nearly clear-tailed birds, though others would be light in color, or perhaps dark. I once bred a black from a Gold-spangled cock and full-mooned Silver hen. A few of the chicks made promising progress in the right direction, but circumstances prevented me from carrying the experiment further. One curious fact should be mentioned—the cross-breeds, though only of the two colors, were much larger than either parent when full grown. The curious result of crossing the Penciled with the Spangled has already been pointed out, but such crosses sometimes produce laced and double-laced chicks, and these frequently have a lighter ground color than either parent.

"Gold-spangled hens allied with a Black-breasted Red old English White-legged or Blue Game-cock mostly breed beautiful and rich colorings, with either moon or lace markings in the same brood, and some nearly black, these being generally cockerels. Black-breasted Red Game-hens, matched with a good Spangled Hamburg cock, seldom produce any but laced birds or partridge-colored pullets with black tips to their feathers, occasionally with white tips, which often occur in the pure-bred Moonies after their second year's moult.

"A Gold-spangled Mooney cock, crossed with colored Dorkings, gives produce that vary in color from a dark rich brown, spangled, and

laced, to red, black, gray, and sometimes speckled white. The white ear-lobe is maintained nearly clear, the legs are generally blue, not slate, and the feet have mostly five toes. Some few may come with white shanks, but these will generally breed back to the blue coloring.

"Crossed with a Spanish cock, many are darkly spangled, with very large rose or upright combs, and white faces. Years ago, I saw some of these. They were handsome birds, good layers, and I was told were 'non-sitters'—therefore a desirable variety where white eggs were in demand. Not a few of the birds were larger than the Spanish, but others less, so that a new breed might possibly have been got through selection, by using the Minorca instead of the Spanish. In breeding the Spangled Hamburg



SILVER-SPANGLED HAMBURG COCKEREL
Owned by Charles Holt, of England

From a photograph

there is generally a greater tendency toward the single comb than in the penciled variety, which, though now called Hamburg, is in no way related, except through an occasional cross. This tendency to the single comb

becomes more apparent when crossed with distinct breeds other than the Penciled Dutch. Crossed with top-knot fowls, sometimes the top-knot entirely disappears and the whiskers and beards are large. Mostly, the comb is single, double, or cupped; more or less spangling generally remains.

"A Cochin cross is often a handsome fowl, with much loss of fluff and increase of tail, the body ground color being a rich golden-red, moon and crescent spangled. They are good layers. In the first cross, the eggs are not infrequently a clear buff. Cochin hens should be used with a Golden or Silver-spangled cock. In the latter case, the cross-breeds are often white, or a very light buff, and well marked with black. The shanks are generally willow in color, and if the Cochins are lightly shank-feathered the crosses are bare or have but a feather or two, but if clear and bred from they not infrequently revert to the Cochin type.

THE SILVER-PENCILED HAMBURG

"As already stated, the Penciled Hamburg is the oldest of all the so-called Hamburg breeds. It is pictured by the old Dutch painters, and it is supposed, rightly or wrongly, to be one mentioned by Aldrovandus in 1630. It may be the breed so often alluded to by older writers as such a prolific layer of eggs, and so long known as 'the Dutch Every-day Layers,' Chittiprats, or Praters, from the continuous, almost monotonous and slightly querulous noises which the hens make as they walk, for no apparent reason. In Kent and Sussex, the local term for this is 'talking'; and with other breeds is said to give an indication of the hen or pullet being about to lay. This is also called 'prating,' it being nothing uncommon in by-gone times to hear it said of a talkative woman that 'she ga'as about a-pratin' like her old heen a-lookin' for a nee'st.' From the word 'chitty,' also indicating something small, no doubt these fowls gained their name of Chitty-prats or Praters. Like all the Hamburg breeds, they are shy and apt to become wild, being very good flyers, sometimes perching on trees or on the tops of houses and barns. A friend of mine losing his newly arrived birds late in the day, discovered them clustered about the chimney and top ridge of his house, where they remained all night, flying down in a flock when called for feeding the next morning. The Hamburgs are in habit and disposition particularly bright and lively. Although they may be kept to some advantage in small inclosures or runs, they are at their best when given unrestrained liberty. They often range some distance

from home, and, if not under some kind of surveillance, they will nest in the hedgerows or any other place that seems to them suitable. One hen that I know of laid in a patch of nettles that grew nearly in the center of a four-acre field. The tops of partly cut hay or straw stacks are a very favorite resort, where, if there is a snug corner, two or three hens will lay together. They are abundant layers of smooth, rather satiny-white eggs. As a proof, there was in 1873, and is now, a stuffed specimen of a Penciled Hamburg hen in a glass case at the Crystal Palace, Sydenham. It is the true Penciled variety, and not, like the present specimens, barred, with no penciling. The bird is placed in a position as if 'cackling,' and is surrounded with white egg-shells. There is a description, taken from the *Gardeners' Chronicle*, February, 1873:

"'Weight of hen alive two pounds thirteen ounces (this shows that the breed has not so much deteriorated in size as alleged by the "new" fanciers, while that of the 200 eggs, her year's produce, is twenty-one pounds thirteen ounces.' What would be thought of a cow that produced seven times its own weight of good flesh every year? No doubt this egg-production is very extraordinary from many points of view, but the writer has somewhat 'anticipated' when he says that it is an annual record. Nor does it surpass that of the White-faced Black Spanish, with its 200, 230-50 much larger and heavier eggs.

"The Penciled Hamburg is a non-sitter or incubator, therefore no time is lost by the hens becoming broody; though cases have been known of a hen rearing two broods in one year, when a pullet, and never becoming broody again. Occasionally, one or two hens in a season may show symptoms for a day or two, but they pass off without any preventive measures being taken.

"Sixty years ago, or more, the Penciled Hamburg was very differently marked, each feather of the body, wings, and tail of the hen being irregularly 'penciled' with light thin, thicker, and much thicker lines, somewhat waving and transverse, thus giving the bird a bright appearance. Sometimes only the two upper feathers of the tail and the outer webs of the primaries and secondaries of wings had these elegant tracteries. The cocks were white, with slight markings on the wings; the tails, black, with the sickle feathers lightly mottled; the primaries and secondaries, black on the inner webs, with black tips. Now, a real Penciled Hamburg does not appear in the show-pen. The specimens so called have bars throughout,

quite as much, if not more, clearly defined than those of the Plymouth Rock, being beautifully regular and even in spacing and thickness. It may be admitted that in this direction at least the Penciled, or, more properly, the Barred Hamburg, has nearly reached the fanciers' goal of perfection. This has been attained by the most patient, skilful, and careful matching—perhaps, in a degree opposed to the breeding for utility; for, according to the received standard of excellence for both cocks and hens, it requires two sets of birds or pens to produce the points of both the sexes. It is, and must remain, a source of regret that the hen's marking and color should not, in a true sense, correspond with those of the cock, the cock being now the male of a differently marked hen.

"The remedy would be to have the feathering standard of the cock bred naturally from such perfection in the hens as is now attained. If this were done, it is certain that far more Penciled Hamburgs would be kept and exhibited than at the present time. It is said, and in many directions most erroneously, that the breed is not so good in egg-production as formerly. As far as I can learn, there is little or no difference, many laying more than 180 eggs a year or season, and some a few more. It is further said that the eggs are smaller, and I think them decidedly less than mine were some fifty or sixty years ago. The generality are smaller than those shells that were about the Penciled Hamburg hen at the Crystal Palace.* Still I do not think the 'exhibition' breed has deteriorated in utility to the alleged extent, while its extreme beauty is almost beyond praise. As a fowl, in elegance, grace, color, form, carriage, and attractiveness, it is a living picture, and highly finished by the art of man.

"Take a golden or silver 'barred' hen in hand, lift and spread the tail fan-like. How clearly defined and regular are the accurate curvings; how neat and compact in form the whole bird is—the head, the eye, the thin rose-coral colored comb and wattles; the well-formed, white kid-like ear-lobe; the blue or, more properly, azure beak, shanks and feet—all lend a charm that holds and delights.

"Years ago there was a subvariety that came from Holland, and was found among the northern fanciers, of which the pencilings were more like cobwebs on the feathers. The black was fine and thick, without the

* As many of these were broken, F. Wilson, the naturalist to the Crystal Palace Company, renewed them about fifteen or more years ago, unfortunately with much smaller egg-shells.



GOLDEN-BARRED HAMBURGS.

heavier blotches, giving the bird at a distance a silvery-gray or a tinged-brown appearance. These were universally called Mossies, and were much admired. Though they never attained to the dignity of the show-pen, they were to be seen both at Birmingham and London in the early fifties. The hackles of these were pure white and the tails black, lightly traced about with white, and they were rather stouter in build than their compeers—the Penciled of that day. Not having seen this variety for many years, it is possibly now ‘crowded out’ and extinct.

THE GOLDEN-PENCILED HAMBURG

“Is in all respects—that is, both in shape and markings—the same as the Silver, with the exception of the ground color, which on the head and neck of the hen should be a bright golden orange, with a deeper and more orange body and tail, the belly being a fine brown. The cock should be a uniform rich orange, rather inclining to crimson; the tail, deep crimson, with orange edges to the sickle feather, larger and lesser tail-coverts; eyes, large and full; face, red, with a dark rim around the eyes; ear-lobes, oval and of medium size, well defined, of a clean, white-kid leather-like appearance and perfectly smooth; beak, shanks, and feet, azure; toe-nails, white. For some unknown reason, the tail carriage of both these and the spangled breed has of late been altered from high to low, thus giving a depressed look and ‘cowed’ expression entirely foreign to the lively, brisk, and courageous nature of the bird. It is not only with the Hamburgs, but also with the Game and other fowls, that this heresy detrimental to the appearance of all has crept into existence. Who is responsible is not to the point. One thing I am perfectly clear about is that it is on a par with the reduction in size of the tails in other varieties, a change for the worse, which cannot be too strongly deprecated. A few weeks ago I saw a flock of Golden-spangled Hamburgs bred from prize birds, and a more spiritless, craven-looking collection it would be difficult to find in any breed, except the modern Hamburg. The cock is a bird that shows both his courage and form to the best advantage, with his tail well-carried and high, and not half a century ago such were chosen in preference to fowls of beauty and character. Why the fancier of to-day likes his cocks and cockerels to look like beaten birds or arrant cowards is a problem that wants solving with many other poultry follies that are rampant because the wise are in the minority.

"Aside from this aggravating fault, for such it is, the Hamburgs are so much improved in other ways as to reflect the highest credit on those who have by zealous love, tending, and careful matching fashioned them so near to perfection.

THE BLACK HAMBURG

"The Black Hamburg, a modern invention, was originally produced by crossing the old English Black Game-fowls with some of the darkest Moonies and the Dutch Penciled Hamburgs; also with the black red-faced



Photograph by A. W. Scott

GOLDEN-PENCILED HAMBURG COCKEREL

Spanish fowls, now called Minorcas. Some aver that the White-faced Spanish fowl was also used, but of this I am doubtful. Many of the old Black Game-fowls had a brilliant green sheen, while others were more or less purple. It has been stated on very good authority that the

Game-fowl was undoubtedly at least one of the ancestors of more than one of the varieties of the present Black Hamburg, and this may be considered partially proved by the tremendous fighting propensities of the breed. It is almost as difficult to keep young Hamburg cockerels together as Game-cocks, many times their beauty being entirely ruined by the persistent vigor and fury of their combats.

"The Black Hamburg of to-day is a singularly beautiful bird when kept in high condition and on a suitable soil; for the soil, without doubt, as well as the food they are fed, affects the coloring of the feathers, and to some extent that of the beak and shanks. I have known birds of a most bril-

liant color, with sheen like the emerald, to lose their gloss in chalky districts, and the leaden color of the legs is also affected. The Black Hamburg is generally somewhat larger than the colored varieties, and the eggs, greater in size, should be white. In shape it resembles closely the Penciled Hamburg, though it is not by any means so noisy, not even crowing. The most frequent crower of any that have come under my own observation has been the Golden Mooney, though individual birds vary in this respect.

"The plan adopted by those who keep these for exhibition is to shut them in a dark place for a few days, only letting in the light at the time of feeding. By this means, and the application of a little weak vinegar and water, the ear-lobes are blanched. The fine iridescent green gloss on the feathers is very much enhanced if the birds are highly fed on wheat and a mash of linseed—one-eighth to seven-eighths parts ground oats.

"These, like the whole family of Hamburgs, are very good foragers, and a most excellent addition to the stock-yard of the farm, where they make their nests among the straw-heaps or the generally surrounding hedgerows. The color being black, they are often kept about towns, as good layers, though the penciled variety is said in this respect to be the best of all. Of course, much depends on the strain, locality, and method of feeding, the whole family requiring a good supply of green food, if in confinement. They are non-incubators.

"The best cross for laying purposes is, perhaps, the Minorca, but I am no advocate for this, and think that far better results can be obtained from pure breeds, as such are generally the most reliable. If a cross for size is desired, I know of none better than a Langshan hen mated to a Black Hamburg cockerel, which produces, in the first cross, fowls that are not only fine and handsome fowls, but have tinted eggs, and are often winter layers. Fowls so bred are very rich in color, and carry the green gloss of both parents, while the breast meat is of a fine white quality. The cross with the Dorking is good to a degree. The chicks generally come five-toed, are robust and hardy in comparison with the young of either, and they feather better than the former. Allied with Polish fowls, they produce something like the 'La Fleche,' with rather more comb; these are good layers. Other crosses can be made, but none that I know of to so much advantage as those mentioned above. The true silver are best pure, and in this respect Mr. Pickles is the premier."

WHITE HAMBURGS

"While we undoubtedly owe," Mr. Hewes says further, "the White Hamburg to skilful English breeding, it is a variety bred much more generally in America than it is across the water, where it is regarded as a mere subvariety of Hamburgs. The variety was originally bred in England as an experiment, and was obtained by selecting the lightest Silver-spangled Hamburgs, both male and female, and mating them together, each year selecting the lightest progeny, until the pure white bird was produced. Thus it will be seen that, in spite of all arguments to the contrary, the White Hamburg is really a pure Hamburg in every particular. While they were a very pretty variety, they were looked upon with considerable disfavor by the English, who discouraged their breeding, and regarded them as an innovation in the Hamburg family.

"It is many years now since they began to be bred in America, and they are much thought of for their many good characteristics, while they figure quite prominently at our principal exhibitions. What has served principally to discourage White Hamburg breeders is the fact that so many imitations have been made and thrust upon the public under the name, that were really mere mongrels. The only true White Hamburgs are those which come from Silver-spangled or Silver-penciled Hamburgs, in the manner we have described. Those with White Leghorn or White Dorking crosses are impositions, and should be avoided by the fancier, who will readily know them by their clumsy symmetry, large size, and coarse combs.

Characteristics of the Variety.—The White Hamburgs should be pure white in plumage throughout, with no signs of that undesirable yellowish tinge so often seen on otherwise good birds. They should be true Hamburg in symmetry, avoiding the Leghorn or Dorking build, and they should be (and are) no larger than the other varieties. Size is not a point to be regarded in Hamburgs; it is their laying qualities we look to, and this variety, while not quite up to the others in this respect, is very productive. The comb in White Hamburgs should resemble that described under the heading of Black Hamburgs. They should have a small, round, white ear-lobe, by no means pendent, and bright-red face; carriage upright, sprightly and graceful.

The Leg Controversy.—We have so far said nothing concerning the color of legs in White Hamburgs, for the reason that there has been a

spirited controversy for many years among breeders as to whether they should be blue or white. It has been a great nuisance to the American Poultry Association, who have found themselves persuaded, because of specious arguments on both sides, to change their Standard at least four times on legs of White Hamburgs. It was originally decided by the Standard committee that a white leg was proper. It was afterward changed from white to blue, from blue back to white, then again to blue, and in 1879 to white.

"Hon. Lewis F. Allen, who is perhaps our largest and most prominent breeder of the White Hamburg, and who has done as much as any other man to push the breed, says in a clever letter, which, however, betrays his chagrin at the vacillating decrees of the Standard committee:

"I have been so disgusted with the doings of the Standard committee on the points of fowls that I have determined never again to take any part in its discussions, or show a bird in its exhibitions, although I still keep and breed the White Hamburg with white legs and beak, which marks truly belong to them, as they did when I first knew them, in 1870.

"I obtained my original birds from a gentleman who bought them in New York—descendants from imported stock, I was informed. They were then, and still are, true Hamburgs in style and form, non-sitters, and nearly constant layers; hardy in temperament, and, in short, very satisfactory birds. They were successfully shown in several of our poultry shows in Buffalo, and won prizes, the white legs and beaks being entirely satisfactory to judges and the society.

"But when the American Poultry Association undertook to make a Standard of points for the various varieties of fowls, some of the pretended "professionals" introduced various innovations, and among them accorded the blue leg and beak to the White Hamburg, which was adopted. Consequently, at the next show at Buffalo, my birds were ruled out under the new blue-leg regulation. The Standard committee had a full meeting during the show, and I went before them and showed the absurdity of the new rule, and the committee decided to reverse the late action and return the points of white legs to the White Hamburgs. It has since, however, been changed several times.'

"Mr. Allen seems to have no doubt but that the white leg is entirely proper, and he shows himself to feel injured by the constant changes made in the Standard; and, indeed, it has greatly injured the variety, simply

because breeders never could tell how to breed their birds so that they would not be disqualified at the next season's shows. That the point between the two colors is a fine one is proved by the indecision of the Standard committee.

"Through all the changes the Rev. C. W. Bolton has stood as firmly by the blue legs as Mr. Allen has by the white ones, and his faith in their propriety has never wavered. Mr. Bolton is one of our most prominent Hamburg men, and has proved his skill as a breeder in showing some excellent stock of the several varieties. He writes us:

"I know perfectly well that my White Hamburgs are pure Hamburgs in every respect. I have bred them myself from the Silver-Penciled Hamburgs, with blue legs and all the characteristics of their predecessors. For ten years I have never had a chick with legs of any other color than blue, which shows that the blue leg is a firmly fixed characteristic, and properly belongs there.'

"Why should other varieties of Hamburgs have a blue leg and the White Hamburg a white leg? The blue leg is a distinct Hamburg characteristic.

"We believe that when our final and unalterable Standard is made, the White Hamburgs will be credited with blue legs.

Points in Breeding.—The rule in mating White Hamburgs should be simply to procure the birds which possess the finest combs, ear-lobes and face, pure white plumage and blue legs. Guard against heavy, blocky forms and coarse combs, and pay less attention to size than to proper symmetry.

PREPARING HAMBURGs FOR EXHIBITION

"Condition means everything in showing Hamburgs, and, without it, many a fine bird comes home from a show minus a prize that could easily have been won had its owner known how to properly fit it for exhibition. By 'fitting it' we do not refer to the unscrupulous tricks resorted to by unprincipled scoundrels who mutilate and torture their birds to bring them within the requirements of the Standard, but to the legitimate preparation to which it is not only allowable to subject a bird, but without which it is really a pity to send a good bird to the show-room. We are not going to recommend any practices which may not be fully known and approved of by any judge, so that any exhibitor may have no hesitation



GOLDEN-SPANGLED HAMBURG COCK

Tail solid black, rest of plumage dark-red with black lacings and spangles.—Charles Eldredge
Bred by Mr. Weir, of England

From a drawing by Mr. Weir

in following our instructions. For at least three weeks before the exhibition, all varieties of Hamburgs should be confined in a darkened coop—not too dark, but with just light enough to enable them to see to eat. We recommend this for the following reasons:

“1. It serves to whiten in an astonishing degree the ear-lobe. We have often seen a bird which, when placed in the darkened coop, had ear-lobes discolored by exposure to the weather, come out at the end of three weeks with pure milky-white ear-lobes throughout. During this confinement, the ear-lobes should be washed each day with sweet milk, applied with a sponge.

“2. This confinement is of great value in promoting a rich luster to the plumage, making each color stand out distinctly, and giving the feathers that glossy appearance so much desired. This matter of plumage is one of primary importance. In Black Hamburgs, the greenish gloss should be brought out as much as possible, and in order to do this confinement in darkened quarters is necessary. After they (the Blacks we are now referring to) have been confined until about a week previous to the show, they should be taken from the coop, and their feathers rubbed down daily with a piece of flannel cloth. Hold the bird firmly on your lap and pass the cloth lightly down the back from the neck to the tip of the tail, and keep up this rubbing steadily for the required time, say fifteen minutes. You will be surprised to see the magnificent gloss brought out upon birds that before were even slightly dull in appearance of plumage. If your birds have the undesirable purple tinge, this will bring it out more than you would wish, but if they have the greenish sheen it will make them glisten in a manner to delight your eyes.

“The Whites are much improved likewise by this confinement, as it gives the plumage a clear milky-white color, and it loses under this treatment the yellowish cast they have acquired by exposure to the weather; only, if they are bad in this respect, they should be put in their darkened quarters at least a month previous to the exhibition. With Golden-penciled and Spangled Hamburgs this darkened coop is of much assistance in bringing out the greenish spangles and in brightening and enriching the ground color; and with these varieties, as with the Blacks, we would recommend the gentle rubbing with coarse flannel.

“Silver-spangled and Penciled birds gain by their darkened quarters a clear and distinct appearance in their markings, as it makes the ground

color a beautiful white, furnishing a desirable background for the colored feathers.

"There is no help for a bad comb or a white face. The best way is never to allow a bird with these defects to see the inside of a show-room. Birds with a tendency to scaly legs should have them rubbed with Stoddard's Poultry Ointment, beginning at least two weeks before the show. If breeders would only attend to this repulsive appearance of the legs in time, or whenever it makes its appearance, and treat it as above, these remarks would be unnecessary. It is an eyesore in any bird, but particularly disgusting on the neat, slender legs of the Hamburgs.

"In fitting birds for show, they should have a wholesome variety of food, wheat and buckwheat being the staples. A little sunflower seed, fed at judicious intervals for the six weeks previous to the show, has a very desirable effect in giving them the gloss and finish so desirable, and which is always observed in prize birds.

"When the time arrives to coop the birds and start them off for the show, great care should be taken that they are in proper trim. As each bird is cooped, it should be carefully examined to see that there are no symptoms of disease, or any foul feathers in the plumage. Then take a sponge and carefully wash the comb, wattles, face, and legs with a mixture of equal parts of sweet oil and alcohol, applying as little as is possible to procure the desired effect—which is, by the way, a remarkable brightening of the comb, wattles, and face, giving them a rich, healthy, and bright appearance, and imparting to the legs a beautiful gloss, which brings out their color with good effect.

"If these instructions are carefully followed, you will hardly recognize in the smart, clean-looking bird that graces the exhibition coop the soiled and dull-appearing fowl you began fitting three weeks before. It may require a certain amount of time to attend to these details properly, but you will feel amply repaid by beholding the prize-card on your coop and having your brother fanciers comment upon the fine condition of your birds.

"It should be remarked," Mr. Weir continues, "that Theodore Hewes has done excellent service in so forcibly calling, it is to be hoped, a lasting attention to some of our most beautiful as well as useful breeds of fowls. It is true that some have attempted to disparage their valuable qualities and to ignore their beauty, making good the old adage that 'Where

ignorance is bliss, 'tis folly to be wise.' They who know the birds and their many and enchanting ways, their habits and alertness, combined with their decorative appearance and remunerative good qualities, must indeed feel deeply the lamentable want of perception that can and does set aside such well-beloved and useful old favorites, preferring the mongrel monstrosities cunningly made and foisted on 'the fancy' for commercial purposes. This, too, at a time when the worldly wise, all too-often elated with a fleeting success, call loudly such deviation from the narrow road of truth and honesty—progress."



Photograph by A. W. Scott

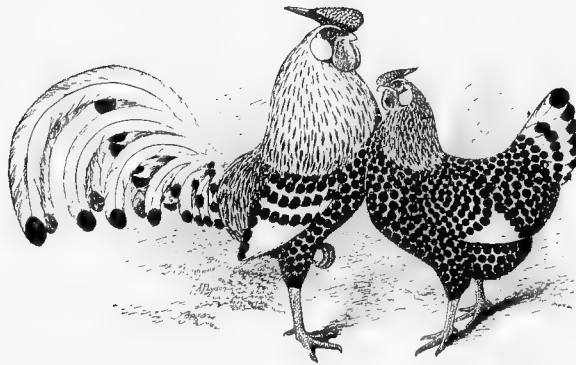
SILVER-SPANGLED HAMBURG COCKEREL

But the poultry breeder often cares not, so long as a variety is—new. He forgets that, but to remember that change does not always mean progress. The swimmer who lets go one plank before he has got a better is very likely to drown. And so it is that fashion decrees much that is useless.

Graceful and elegant as the Spangled and Penciled Hamburg is, it is pleasurable to find that American fanciers are not only recognizing this, but also its usefulness as an abundant layer of pure-white eggs.* A club has been formed, and an illustrated book has been issued with exhaustive articles on the breed, by Theodore Hewes, and a historical résumé from the well-known pen of Dr. H. P. Clark, who most lucidly describes its antiquity. To give an idea of the intention, it would be

*"The Book of the Hamburgs." By Theo. Hewes.

well to quote briefly from the preface. Mr. Hewes states that: "In furnishing this work on the Hamburgs, I have a twofold object in view. First, to give the amateur as thorough a knowledge of this breed as possible, and, second, to assist in popularizing one of our best varieties of fowls. I have tried to give the lovers of this meritorious breed a book that will assist them in their efforts to improve it in a general way, and one that will aid the amateur to avoid many of the pitfalls with which he is continually confronted in the mating and selecting of exhibition stock. I am firmly convinced that a better understanding of the breed is all that is necessary to popularize it as a leader among the small varieties. Heretofore they have not been popular in this country, from the fact that breeders and editors have not given them the attention they deserve. They are remarkably good layers of fair-sized eggs; they are interesting and attractive, no matter how carelessly bred; and there is no bird in the Standard to-day that will give the fancier a better opportunity of trying his skill, and but few, if any, which will respond more quickly to scientific mating."



From a drawing

IDEAL SILVER-SPANGLED HAMBURGS

THE REDCAP*



THIS is the modern name for a very old English breed of fowl, whose origin is now unknown. Not many years ago, under the name of Coral, it was one of the favorite breeds in Yorkshire, Lancashire, Staffordshire, and some parts of Cumberland. For some reason, it never gained so high a reputation in the southern counties, in spite of its excellent qualities. It has been asserted that this was one of the breeds used by Sir John Sebright to produce his well-known Gold-spangled, now Gold-laced, Seabright Bantams. This is just possible, judging from the full rounded shape and rose-comb of the breed, since the original Seabrights were spangled, not laced, as at the present time. The Redcaps were known by many different names in as many different localities, such as: Copheads, Corals, corrupted into Creoles, Rosetops, Redheads, Redcaps, Derbyshire Redcaps, and Yorkshire Ever-layers. They are quite distinct from the Hamburg fowl (now so called), either the spangled or barred, as already shown in my description of these varieties. As table birds they are of good quality, though smaller than is generally required for market purposes, the cocks weighing seven to eight pounds, and as much as nine pounds in exceptional cases. Generally, the larger birds are not so well colored and marked as the lesser. In habit they are lively, alert, and given to roaming, being excellent flyers, and in disposition shy and somewhat wild unless thoughtfully managed.

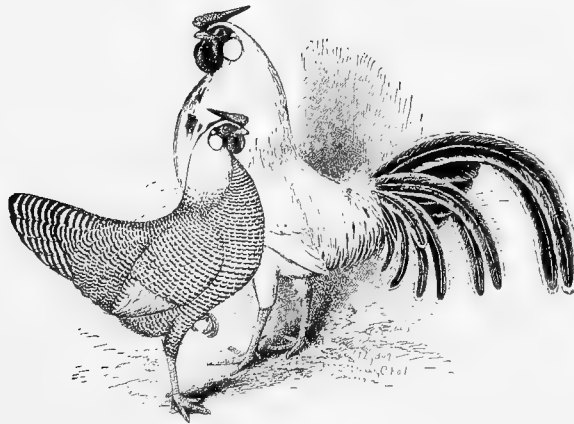
Many farmers prefer this breed to the Hamburg, considering it heavier and of better shape as a table fowl. When the Redcaps can have a large run or freedom, they do exceedingly well, but, like Hamburgs, they are impatient of confinement, and subject to many diseases. Even in smaller runs, they may be kept to advantage, provided due care is taken to give a daily supply of vegetable diet and cresses, or some substitute for insect life. The Redcap of late years has lost caste, excepting in some districts,

* This account of the Redcap has been revised, to meet American conditions, from the chapter in Mr. Weir's latest work. While this breed has been admitted to the American Standard of Perfection, it is not a common fowl in this country.—EDITOR.

such as Derbyshire, where prizes are still offered for the pure breed, now becoming somewhat scarce by reason of the craze for crossing every variety, be it good, bad, or indifferent. The cock is a very handsome bird of good mien, erect, carrying the head and tail somewhat high. The latter is full, large, and sickled, with long, well-curved feathers, the side hangers being more numerous than in most breeds; the shoulders are broad; body, medium length, round, with a full deep breast; the thighs and legs, medium length and fleshy; the shanks, fine in bone; feet, well spread; toes, rather long, with hind toe resting on the ground; the shanks, blue; spurs, set low; neck, rather short than long, and well set on the shoulders; the head, rather thick at base, but tapering toward the beak, which is somewhat curved and stout; the most noticeable point being the comb and wattles, the former representing the truest form of what is termed the rose-comb. The old-time endeavor was to get this perfectly circular, without the point at the back, just like a full-blown rose.

Many of the rose-combed fowls of the present time were formerly termed Rosebuds, etc., the true rose-comb being a circle. About fifty years ago, many of these were to be seen, and they were held in high esteem, the full tails and round-made bodies being in unison with the rose cap, which was filled with small, or middle-sized spikes, and was very red, presenting a remarkable appearance. Now, for some unknown, unreasonable cause, it has become fashionable to have an elongated comb of about five inches by three to four across, with a peak of at least half an inch. This is not by any means an improvement, and as it has probably arisen from a cross with the Hamburg, it is a sign of impurity. The shape, looking from the point of the head, should be a curve, the sides all round lower than the center, the spikes well grouped in rows, or, at least, in even divisions; the wattles, rounded, though somewhat pendulous; the deaf ear, full, oval-shaped, and red; face, comb, and wattles, and whole fleshy part of the head, brilliant deep red; eyes, large, full, and deep hazel, inclining to bright dark-red; shanks, feet, and beak, blue or slate color; toe-nails generally whitish. The ground, or body color, should be deep rich red, the breast clearly spangled; hackle, very rich dark-red, slightly ticked with black; saddle and back, rich maroon, inclining to orange-red; wings the same with a black-spangled bar; tail, black, with lower tail-coverts edged with dark-red; thighs and belly, nearly black. The opinion has been expressed that these are the fowls designated "Velvet Breeches" by Bewick, and this is just

possible, though scarcely probable. The hens are of the same ground color, each feather spangled with black; black tails, comb, and wattles, the same as the cock, but much smaller. As laying fowls, they can successfully compete with most breeds, even with the Dutch Every-day Layers, known as the Penciled Hamburgs. The eggs are white, like those of the Hamburg, but larger, as the fowl itself is also bigger and more robust. The flesh flavor is light and delicate—not so rich as the Langshan, for example. The chicks when first hatched are of a mahogany color with a rather dark stripe. They are lively, and more easily raised than the Hamburg, but require new grass runs when strong chickens are desired. They do not obtain their markings until they have their real plumage, and the cocks are more handsome the second year, but in the third they attain their full beauty and maturity. Judging from appearances, they will ere long prove to be more in demand, and there is just a possibility of their becoming a popular fad. Fashion rules the poultry throng more than quality, which is known to exist, but is scarcely understood, except by the few.



From a drawing

IDEAL SILVER-PENCILED HAMBURGS

THE HOUDAN *

REV. C. E. PETERSEN, Maine



THE origin of the Houdan is clouded in obscurity. After years of careful research, I can find no authentic information on the subject. This is not to be wondered at, as we find the same difficulty in tracing the origin of breeds that have come into existence long after the Houdan was even known by the name it now bears. The origin of this name is well known, as it is simply taken from a town in France bearing that name, and from which place it was first imported; but what name the fowl went under before that time is another matter. The first public mention of the Houdan, by its present name, was in *The Journal of Horticulture*, June 3, 1862. There were also figures of the breed as it then looked. There is no doubt in my own mind that the breed had existed in France long before 1862. All the noted French writers are almost unanimous in their views regarding this matter, giving to the Houdan a very early date, making the fowl as ancient as France itself.

Monsieur P. Megnin, in his valuable treatise, "Élevage et Engraissement des Volailles," speaks of the origin of the Houdan thus: "The essential characteristics of the Houdan are a mixed plumage of black and white, a half crest, and five toes on each foot. This indicates that they are derived from the common five-toed fowls that existed in the time of Columella, and which are still met with in the north of France and Belgium, and the old crested race of Caux."

Lewis Wright and other English writers consider that the Houdan is of recent origin, and that it is a cross between the Polish and Dorking fowls. I do not agree with this. If the Houdan was of recent origin, and Dorking blood was used in its make-up, it would assert itself sometime or other in

* This account of the Houdan, by the noted breeder and fancier, the Rev. C. E. Petersen, of Maine, is without doubt the most complete and comprehensive chapter ever written on this breed of fowl. Houdan breeders will appreciate it all the more because it contains a general summary of the methods practised so successfully by the author himself. Most of the photographs used in this chapter were arranged by Mrs. Marie S. Petersen, wife of the author.—EDITOR.

the manifestations of Dorking characteristics. Dorking blood may have been introduced after the Houdan was introduced into England, but little



Photograph by C. E. Petersen

"DEFEND YOUR REPUTATION, OR BID FAREWELL TO YOUR GOOD NAME FOREVER"—MERRY WIVES OF WINDSOR

Look at these eggs and ask that again

is known as to the time it was imported into England. In a letter, dated August 27, 1901, Harrison Weir writes as follows: "I cannot say when the Houdan first came into England. As long as I can remember, there has been in the farm-yards of Kent and Sussex a fowl similar to the Houdan, but not under that name. Some were imported from France in 1860. I secured some in 1864, and liked them very much. Part of the first birds sent over had the stag-horn comb, and it was

some time before the fancy world settled on the leaf comb. In color, they were white, mottled with black."

The first English book on poultry mentioning the Houdan, and then under the name of "The Normandy Fowl," was Wingfield and Johnson's "Book of Poultry" published in 1853. They describe the fowl as follows: "The Normandy Fowls are entirely speckled in black and white; they have a small erect topknot, drooping backward like a lark-crest. The plumage of the male bird is much darker than that of the hen. In shape, they are lengthy, but become contracted toward the tail. The cock's tail is of great length; his comb and wattles are also of large size. The chickens are very peculiar, having, at first, perfectly black backs and white breasts; but they gradually become speckled, like the old birds. They have five claws, and the skin of the leg is pied black and white. This, however, turns to a blue leg with a whitish foot in the adult birds." This, as far as I have been able to discover, is the first

published description of any fowl coming within a reasonable certainty of being the Houdan.

In his book on poultry (1834), Moubray says, "The genuine Poland has five toes." It is more than possible that the bird here mentioned is the one about which Mr. Weir wrote me, and said, "A bird similar to the Houdan has existed as long as I can remember in the farm-yards of Sussex and Kent."

It may be wise to leave the field of speculation here and go back to the year 1865, when the American history of the Houdan begins. In the spring of that year, a Mr. Dorose made an importation of some very fine birds. I. K. Felch, the veteran fancier of the United States, at that time being interested in this importation, bought most of the progeny from Mr. Dorose. These he shipped into several States, thus making an early distribution of well-bred birds. In 1867, at Worcester, Mass., the first Houdans exhibited in America were seen, and it is of no little interest to know that the exhibitor was the famous temperance lecturer, John B. Gough. Mr. Felch, who was the judge, says: "They were as evenly broken in black and white as I have ever seen them since. Comb was both what was called 'leaf' and 'antlers.' They were large, fine birds, much larger than at the present day." The accompanying illustrations, taken from *The Agriculturist*, May, 1867, will give an idea of what these early Houdans looked like.

They were much lighter in color, and the comb of no established shape. The strawberry, leaf-shaped, and antler-shaped combs, or a mixture of them all, was the order of

the day. The topknot (for we cannot call it a crest) was small, straggly, of the all-over-the-head type. In fact, it was not a fancy



Photograph by C. E. Petersen

HOUDAN CHICKENS FOUR MONTHS OLD

fowl at that day. They were mated for meat and eggs. This satisfied their French owners more than the beauty of their plumage. Utility and beauty could not even be imagined by them; the first object attained, the other side was of little consequence. Since then, such great improvements have been made in the Houdan by American fanciers that we should almost be justified in calling the present-day Houdan an American creation.

The color of the plumage is much darker than in the early importations. The white mottling in a well-established strain is small and evenly distributed all over the body of the fowl. The ill-shaped strawberry-like comb is a thing of the past. In place of it, we have the much neater V-shaped comb. The honor of this great improvement, as to present shape of comb, is entirely due to the untiring efforts of America's veteran Houdan breeder, Daniel Pinckney. His Houdans, for a lifetime, were well known in every show-room of note in the United States. Inquiring into the matter, regarding the V-shaped comb, I asked Mr. Pinckney whether any Creve blood was used by him in fixing this form of a comb. To which question he answered as here stated: "No Creve blood was used to introduce the V-shaped comb into my strain of Houdans. I began breeding them in 1871. Several years after, I raised a cockerel which was a very fine bird, but with a very small V-shaped comb. I mated him to a pen of hens that also had small combs. From this mating I kept on selecting and breeding the smallest-combed birds, until I finally established what is now known as the V-shaped comb. At that time, Capt. James E. White was an importer and breeder of the Houdan. Making a visit to my home, he there saw for the first time the V-shaped comb. This he much preferred to the open-leaf comb, which he said gave the fowl a much more aristocratic appearance. It was through Mr. White's efforts that the V-shaped comb was finally adopted by the American Poultry Association, and the change made in the Standard of Perfection."

This V-shaped comb is now the established and accepted standard of the Houdan fancy in America. No one desires to go back to the old type, though there are still some critics that seem to think that the "leaf" is a Houdan characteristic, and ought to be bred. I think differently, and so does every other Houdan breeder in this country. The V-shaped comb has come to stay, while the "leaf" has gone forever.

If there has been any failure on the part of some of our American

Houdan fanciers, it certainly has been in neglecting the all-important point, size. I well remember some of our early experiences when I laid the foundation of our strain. I was desirous to obtain birds of good size and true Houdan shape, but everywhere I failed most woefully. Finally, I had to make an importation, and got all I wanted in this respect. The females, in size, dwarfed whatever stood up against them. In shape, they represented the ideal bird we had so much coveted. In 1875, the Standard gave ten points for

day Standard makes am rightly informed, in Standard the scale will

The English Standard eighteen points for lack following weights: Cock, pounds; cockerels, six six to seven pounds; pounds. It then adds, better." Our Standard lowered the weight, time, it calls for cocks at six pounds; hens, six pounds. Even these exhibition halls at the exhibited under—than miserable apology for and best table fowls ever country. I shall always

inent remark made by disappointed exhibitor, class at the Boston show he had passed without any mention whatever. When approached by the exhibitor about the matter, Mr. McGrew, who had done the judging, said, "I do not pass on Leghorns in the Houdan class." The birds were not any larger.



IN THE HOUDAN YARD

size, while our present-only six points. If I the next edition of the be dropped altogether. ard makes a cut of of size, and calls for the from eight to nine to seven pounds; hens, pullets, five to six "if larger, so much the has continuously until, at the present seven pounds; cockerels, pounds; pullets, five weights are scarce in the present time, more being over—weight. This is a one of the most beautiful introduced into this remember a very per-

T. F. McGrew to a much-whose birds in the pullet

THE HOUDAN AS A UTILITY FOWL

As to the value of the Houdan for utility purposes, there is much to be said in its favor. In fact, it would be hard to say too much. And, if

it was not for our American fad of yellow skin and legs, I sincerely doubt whether there would be a more popular breed in America to-day. As it is,



Photograph by C. F. Peterson

A HOUDAN PULLET

Too dark for exhibition, but which will molt into a standard color when

it is gradually coming more and more into favor. Where, a few years ago, the Houdan was not seen outside of our large exhibits, like New York and Boston, there is hardly a show anywhere at the present time within the bounds of the United States or Canada where exhibition displays of Houdans may not now be seen. The climax was reached at Boston in 1900, where 135 specimens were on exhibition. That the establishment of the American Houdan Club in 1898 did much to popularize this most excellent fowl is an undisputed fact, but the fowl itself has the qualities in it that will make it popular wherever it is introduced and given a fair trial.

It is not only beautiful, but

in every particular a useful fowl for domestic purposes. There are none better.

A few of the many points of true excellence it possesses are these:

1. Quick to grow and feather as a chick, making broilers almost as soon as the Wyandotte, Plymouth Rock, or Brahma.
2. Fertility of eggs, nearly every one producing a chick under favorable conditions.
3. Early laying of pullets.
4. Great productiveness of the females. Hens, three to five years old, lay nearly as well as when they were young.
5. Largeness of its egg, and the pure white shell.
6. Ease of confinement and perfect contentment in restricted quarters.
7. Perfect quality as a table

fowl, both as to flavor of flesh and the very small percentage of waste when dressed, the loss being only about one-eighth part. 8. Small eaters. 9. Hardy of constitution, adapting themselves to all kinds of climates and conditions. 10. Good winter layers when given any kind of decent care and attention. Surely, these qualifications are enough to entitle the Houdan to better recognition.

That objections have been made to its crest I cannot deny, nor pass by without mention. It has been said by those who do not favor the Houdan that, if it is left out in cold rain-storms, the crest becomes water-soaked, and colds and sickness follow. I know from experience that the Houdan is not more likely to suffer from rain-storms than any other breed. They can stand as much exposure as, or perhaps more than, most other breeds. They are hardy and robust of constitution. Sickness is almost unknown to them. We must have hardy fowls in Maine, where zero weather is the order of the day, and not the exception. The crest is a great help in winter to shield the comb from freezing. In this way, it becomes a help in cold climates to increased egg-production. Another objection has been made because of a white skin and pinkish-white feet. The American public demands a fowl with yellow skin and feet. As this is simply a fad, it is hardly worth taking into consideration. The Houdan, when dry-picked and put up as it ought to be, makes a handsome carcass and finds a ready market.

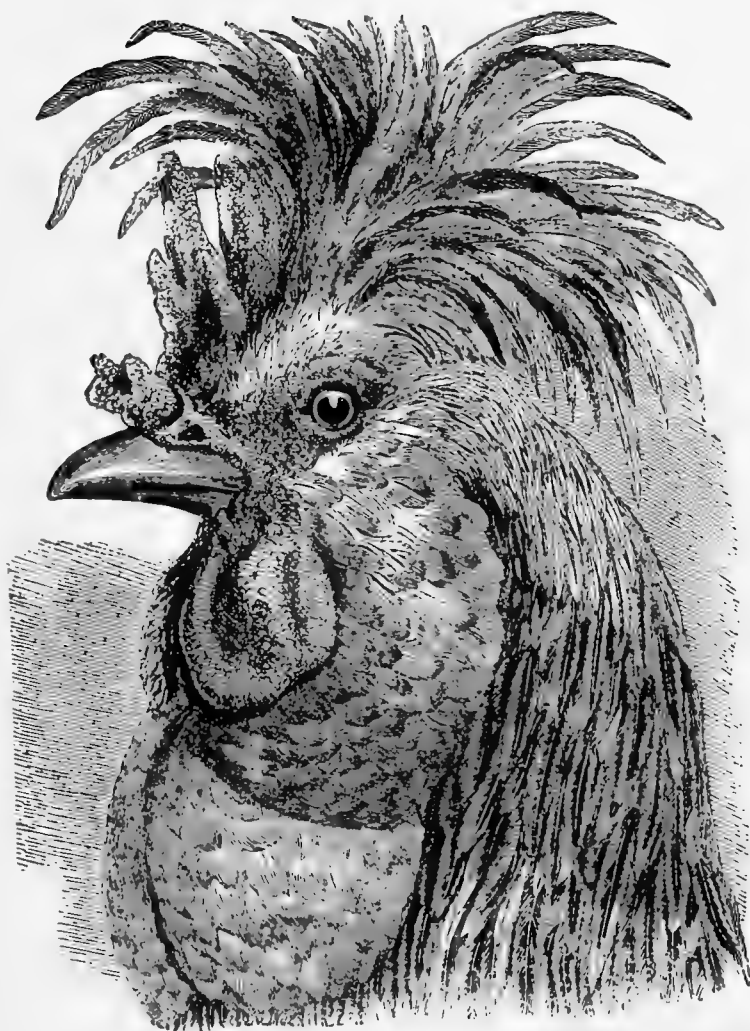


Photograph by C. E. Petersen

A STANDARD COLORED FEMALE HOUDAN

In an editorial in the *Baltimore Sun*, George O. Brown writes as follows on the merit of the Houdan fowl: "In the great rush for new creations in poultry, the sterling qualities of the Houdans and other well-established breeds are being sadly overlooked by the new generation of fanciers. The booming of new breeds has not only become a fad, but a veritable science, from an advertising point of view. The excellence of Houdans as table fowls is not equaled by any other breed. The breast meat is of rich, juicy, tender quality, free from stringiness. The bones, for the size of the carcass, are unusually small. The Houdan chicks are thrifty, hardy, rapid growers, showing great vigor when first hatched. The eggs of the Houdans are pure white, and so large that it seems a sacrifice to sell them by the dozen, when compared with the size of eggs of other breeds, except possibly the Black Spanish. The fertility of Houdan eggs is simply remarkable; often every egg that is put in a nest hatches—in fact, their hatching qualities are not surpassed by any other breed. It is to be hoped that much stress will be given to the fact that Houdans are a utility breed in as strong a degree as they are fancy. If the breed had received as much attention as the Plymouth Rocks and some other breeds have, Houdans would to-day stand as high in utility as any breed. The fact that the legs of the Houdan are bluish-white should be no drawback. The real test of excellence or desirable qualities of a table fowl is in the eating after they are cooked. A yellow leg may be admired on a dressed fowl in some sections more than others, but it is in no way an indication of desirable quality. In France—a nation of epicures—the characteristic color of the legs and the five toes are a certificate of quality. A dressed turkey is almost identical in color with the carcass of a dressed Houdan. No one disputes the quality of a good cooked turkey on account of color of legs or carcass. Knowledge is a great dispeller of prejudice, even when the prejudice is handed down from one generation to another, without attempt at investigation.

"One thing that used to be classed as against the Houdans was their non-incubating qualities. Now that incubators and brooders are so popular, and in such universal use, that characteristic further enhances the Houdans' value. Complaint used to be made that their eggs were too large—that they spoil the sale of eggs of other breeds. There are plenty of sources where Houdans and their eggs may be sold at prices above general retail market prices. There are plenty of people who are always ready to



From an old woodcut, by permission

HOUDAN MALE AS IT LOOKED WHEN FIRST IMPORTED INTO THIS
COUNTRY, IN THE SIXTIES

An unsportable crest now lays, but still seen

purchase extra quality in fowls or eggs, and who are willing to pay an extra price for the same. Superior quality and size in any commodity command their worth over smaller or less desirable articles. In these days, when poultrymen are giving their flocks humane, sanitary, and business attention, by providing good houses, scratching-sheds, runs, etc., and giving a healthful, varied diet, there is no reason why crested breeds should not

prove as healthy as other breeds. One thing that has resulted in belittling the Houdans is the miserable specimens that have been exhibited around at



HOUDAN PULLET, "BONNIE LASS"

First, Boston, 1900, and winner of many other prizes. Bred and owned
by Rev. C. E. Petersen, Maine

agricultural fairs — specimens which were in reality a libel on the size and appearance of the breed. At one time, farmers were so prejudiced against Jersey cattle that they were called fancy cows, and were not considered in a utility degree at all. The farmers simply did not know their utility worth. Now they do, and many dairy herds are almost entirely composed of Jersey cows.

"The Houdans, because of their uniform mottled black-and-white plumage, their showy crests and beards, or muffs, and their five-toe peculiarity, are conspicu-

ous objects, or, in other words, because their make-up renders them handsome, are concluded to be fancy fowls only; but they are just as deceiving as the Jersey cow. Their attractive looks are not their only desirable qualities: a real utility worth goes hand-in-hand with them. The French people, as before stated, are epicures, and all their breeds of poultry, though generally odd in appearance, possess the very highest degree of useful or desirable utility merit."

Such unstinted praise from a man who knows should do much to convince the poultry-loving public of the great value of this breed for utility purposes. Another great authority on the merits of our different breeds is Michael K. Boyer, whose name as a poultry expert on all matters pertaining to the subject is familiar in the United States and England.

He makes this statement regarding the Houdan as a utility fowl: "I bred Houdans for several years both in Virginia and in New Jersey, and found them excellent layers. The objection to the color of their eggs, which was white, was greatly offset by their size. I even had customers, who were brown-egg cranks, that would pick out our large white Houdan eggs in preference. The Houdan is not only a good layer, but her eggs are remarkably fertile. For winter layers, if provided with a good warm house and fed plenty of nitrogenous food, they are equal to the best. I would like to see the Houdan fowl more popular than it is. It is the best French breed that we have, and should be more universally bred here in America."

A noted English breeder, Henry Thornber, in an article contributed to "The Book of Poultry," among other things in regard to the Houdan as a utility fowl, says: "There can be no question of the value of this breed as layers and as table breeds. A properly reared and properly fed Houdan of a good laying strain, hatched in March or April, should commence to lay in October, and should be laying three eggs per week by the end of November. From my experience, I find that they soon run up to four eggs per week, generally about the latter end of January or middle of February. After this, according to my egg-recording books, there seems to be no increase in the number per week until about the middle of April, when there has been an increase for most of my pullets to five eggs per bird per week, which high



Photograph by C. E. Petersen

A WELL-SHAPED FEMALE HOUDAN CREST

rate has lasted till about the middle of June. Toward the latter end of June, there has been a diminution to three per week, and by the end of July I have been having only two per week per bird. After this latter month the laying quickly ceases, and the birds go into molt, which, with a little care and the use of Douglas mixture, should not last more than about five weeks. They come on to lay again very quickly after the completion of the molt, and, according to the behavior of my birds, there seems to be practically no shrinkage in their laying powers during their second year of laying, although they start laying rather later, and continue until a later part of the year. The succeeding



Photograph by C. E. Petersen

A STANDARD SHAPED FIFTH TOE

molt, after the second year's laying, appears more prolonged and more exhausting, and I find a very considerable reduction in the number of eggs afterward. My laying-stock average per annum has varied from 160 to 189 eggs. I get a number of eggs of quite a tinted appearance, rather deeper than cream color, among the rest, the majority of which are snow-white; yet the birds are all bred the same, and have been so for some years. I have never been able to account for it.

"Selected birds have done much better than the above. My breeding fowls are kept in pens, each comprising seven pullets or hens and a cock, in pretty large runs. There are five of these breeding-pens, which are also fed a little differently from the general flock. Thirty-five birds, selected to breed from as good layers, have averaged for four years, counting from November 1 to November 1, as follow: 1896-7, all from pullets, 207; 1897-8, about 20 per cent. hens, the rest pullets, 203; 1898-9, about 25 per cent. hens, the rest pullets, 208; 1899-1900, all from pullets, 226. I consider a Houdan worthy of the name of a layer when she lays 200 eggs between the beginning of the November after being hatched and the beginning of the following November."

CHARACTERISTIC POINTS OF THE HOUDAN

THE COCK.—A Houdan cock, fully grown, should not weigh less than seven pounds, the Standard requirement. That weight should have been attained when the bird is in good breeding condition. Size, in a Houdan, is of great importance. I would emphasize this requirement by having the Houdan Club instruct its judges never to give the blue ribbon to an undersized bird, male or female.

In form, the Houdan is a squarely built fowl, somewhat resembling the Dorking in shape; a fairly long body, indicative of a good supply of breast meat; low on the feet, the hock coming nearly up into the fluff of the body. The shoulders, saddle, and back are very wide. The latter straight with a slight drooping toward the tail, which should be carried moderately low and abundantly furnished with saddle and sickle feathers. A Houdan with an upright tail is not in good taste with the massive build of the breed. The breast should be conspicuous for breadth and fullness. When I say fullness, I mean a good rounded breast, coming well forward; the breast-bone deep in the keel, extending from the forepart toward the tail, that there may be ample room for the production of flesh. The wing should be carried well up, properly developed, large, heavy, and muscular. The thighs large, with legs firm, of medium length, and moderately thick. The fifth toe should be quite distinct, well developed, and curving gently upward.

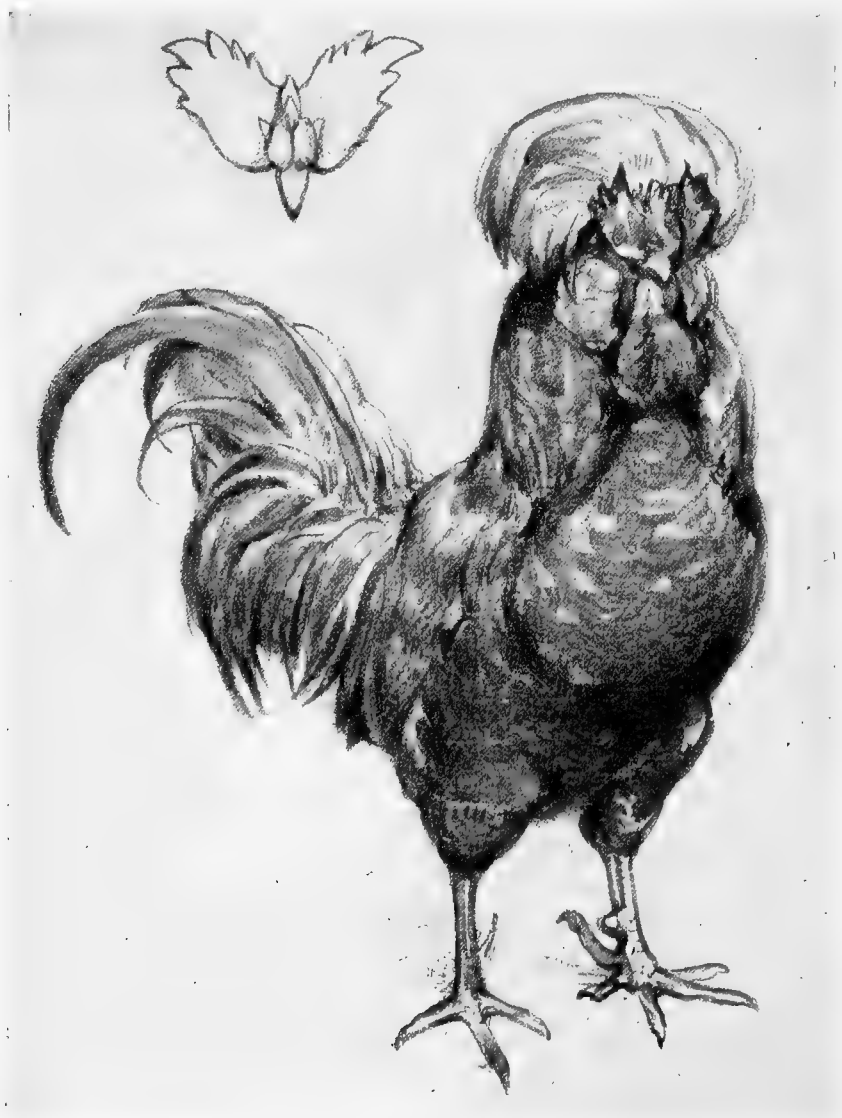
The head should be of medium size, carried well up, and surmounted by a large crest composed of evenly mixed black and white feathers; in texture they should be similar to those of the hackle, falling well backward upon the neck and sides of the head, incasing, as it were, the head in a half-circle. It should not be of the topsy-turvy kind, with feathers in it, standing up straight, and front falling forward over the eyes of the bird, but a crest perfectly smooth, high in front, making a natural background for the comb, falling backward upon the neck in an unbroken mass.

This is the crest of a well-bred Houdan, giving style and finish to the whole bird.

The beard should be strongly developed and pendulous in shape; it should be long and full—not a few feathers curling upward between the wattles, with a split or division in the middle. The muffling should be

in abundance, hiding the ear-lobes and almost covering the face, curving upward to the back of the eyes, and there joining the crest.

The comb must be V-shaped, the smaller the better, but well defined; natural absence of comb is not to be desired. Free from side springs or extuberances of any kind.



PRIZE HOUDAN COCKEREL, 1897
The English type, and the butterfly comb; not bred in America

from a sketch by Harrison W'ear

The Houdan hen, like the cock, should be a full, square-bodied bird, weighing not less than the required six pounds; seven or eight pounds would be still better. She should have a broad, straight back, sloping imperceptibly toward the tail. The crest should be large, globular, full, and compact, with the feathers closely overlapping, and enough of them to more than fill your hand. Females with fallen crests should be discarded. An evenly mixed crest of black and white is, of course, here, as in the male bird, to be desired. The comb, as in the cock, V-shaped, but very much smaller; in a well-bred specimen, the crest should almost hide it. Short but stout shanks; fifth toe well developed, and, as in the cock, curving gently upward.

The color of the plumage, in both male and female, should be black and white, black to predominate, and of a good greenish tint. The white should be clear, without the slightest tinge of straw color; the frosty and grayish mixture, which is neither black nor white, should not be present. There is also a kind of black, with a rusty tinge to it, that is not at all desirable; neither is the only too much prevalent purple-black, and where there is also bronze-bars present it is, of course, a good deal worse.

The Standard calls for black and white, evenly mixed, in the proportion of three black feathers to one white. This is the stumbling-stone to so many fanciers. They will continue to exhibit birds that are too dark in color. These birds are all right in the breeding-pen, but it is not what the Standard calls for, nor is it Houdan color. Yet a bird may be very dark and, for all that, be evenly mottled with white all over the body. This is the kind of mottling we desire. No judge will pass such a bird for being too dark in color, neither is such a bird likely to fail in her first moult nor in the breeding-pen. It makes a great deal of difference whether the white is all in one or two places or evenly distributed all over the body. A feather all black with a little pure white on the end is what makes a beautifully spangled bird, and all right for breeding, as well as for exhibition purposes. On the other hand, a bird with great splashes of white here and there on the body, with wings of a color that the Standard does not call for, any more than all black splashed all over with white, describes fairly well what I mean. Such a bird is not fit to exhibit, and useless in the breeding-yard. Wingbows and secondaries black. Primaries black and white. The feet should be pinkish-white, mottled with black.

The eye a bright red. In characteristic, wide awake and alert in all its movements.

HOW TO MATE FOR THE BEST RESULTS

The first essential to future success is the perfect health of the birds from which the breeding-pen is to be made up. And of such vital importance is this selection of healthy spirited birds, that if neglected will simply invite absolute and complete failure and disappointment after disappointment in future operations. We might have ever so fine a bird, but if it lacks in constitution it is of no value in the breeding-pen. Every chance is in favor of such a bird transmitting its own lack of constitution. Usually there is not enough strength and vitality for the transmission of some of the good points it possessed. And still worse, her undesirable qualities would be intensified. Line-breeding must be resorted to so as to obtain best results and fasten the distinctive qualities and characteristics of the birds, so they will reproduce themselves. If in the very beginning of the formation of a strain, weakly and unhealthy blood is introduced, the result will, of a necessity, be fatal to success. Inbreeding, therefore, without good material and skilful application, is useless; with both it is almost irresistible.

The females should, as near as possible, be of the same type. Whatever their faults are in other respects, as far as type is concerned they should be uniform. By so doing, and securing a male bird of true Houdan shape and type, we shall obtain that uniformity of character so noticeable in a first-class strain.

The first thing of importance in the male bird is size. He should never be below the Standard weight, and if two or more pounds over so much the better. He should have no grave defect of either body or limbs. Good, well-formed feet in the male bird is of the first importance. On this point I find his influence very potent.

I consider the crest of great importance in the male. I would never use a small-crested bird for stock purposes.

In color, I prefer a male darker than the Standard calls for, of a good greenish, glossy black, with as good a clear white mottling as is to be obtained.

In temperament, he should have a great deal of vivacity and restless activity. He ought, moreover, to delight in caressing the females, to be



From an old woodcut by permission

HOUDAN FEMALE AS SHE LOOKED WHEN FIRST IMPORTED INTO
THIS COUNTRY DURING THE SIXTIES

An undesirably shaped crest, yet still seen

gallant in defending them, inviting them to eat, and be incessantly taken up with his mates. If he is sulky, selfish, persecuting, and domineering, divorce him immediately. Sometimes an old male exhibits these characteristics and is of little use. In making a choice between two males equally fine in feathers, always choose the most courageous.

The good qualities of the female are of no less importance than those of the male. In selecting females to be put in the breeding-yard, a minute

examination of their combs is of great importance. Never use a female with a large, ill-shaped comb. In this respect their influence is very great, however good the male may be in this point.

Never breed from a hen with a curved middle toe; one with a bumble



Photograph by C. E. Petersen

A PEN OF PRIZE HOUDAN HENS IN WINTER

foot should also be avoided. These defects are hereditary. Once bred into the flock they are difficult to eliminate.

The crest should be well formed. A little topknot will not answer. A large, smooth, and globular crest, with well-shaped beard and muffling, is desired. Never use a female with a ragged or a fallen crest if fine, smooth-crested males are wanted. In wattles, as well as in comb, the influence of the hen is very potent.

Regarding the age of breeding-stock, we may take for granted, once and for all, that nothing but mature stock should be used if best results in vigor and stamina are wanted. My experience has been that two-year-old birds on both sides give the best results, but fully matured yearling birds will give good results and can be bred with impunity.

Of course, the breeder of long standing knows the breeding value of his old stock birds whom he can depend on, while in a pullet mating the

breeding value is not so well known. Here it is that the skill of mating and the value of good blood comes in, but even good blood in unskilful hands may be ruined, and years of judicious breeding may be upset by one mistaken cross.

Any one with money enough can buy prize-winning birds, but he cannot keep them up to their high standard until he understands the art of breeding. Those who have high-class exhibition birds are most particular regarding the selection of breeding birds, and will take any amount of trouble that would be regarded by the inexperienced as unnecessary. So then, when eggs for hatching are wanted, or stock birds, don't buy as cheap as you can, but as good as you can afford, and from some established breeder that has been in the field for years and knows the breed you want by long and intimate acquaintance. For a dollar saved in buying breeding birds, or eggs, is, in a good many instances, the other dollars lost. The very best to be had is none too good.

The subject of mating these birds for the production of stock equal to the parents is important. Of course, let it be clearly understood that if one parent fails in any one particular point the bird mated to it should excel in that point. For instance, if the cock should be a little faulty in comb, I should mate him to a hen extra good in this particular. If he should be too short in back, mate him to hens not failing in this respect, and so on. I may also state that double mating is not necessary whatever, as both sexes of the highest merit can be bred from one pen. No need, in Houdans, for a pen for cockerels and another for pullets. No breed in existence will breed truer to individual characteristics than the Houdans.

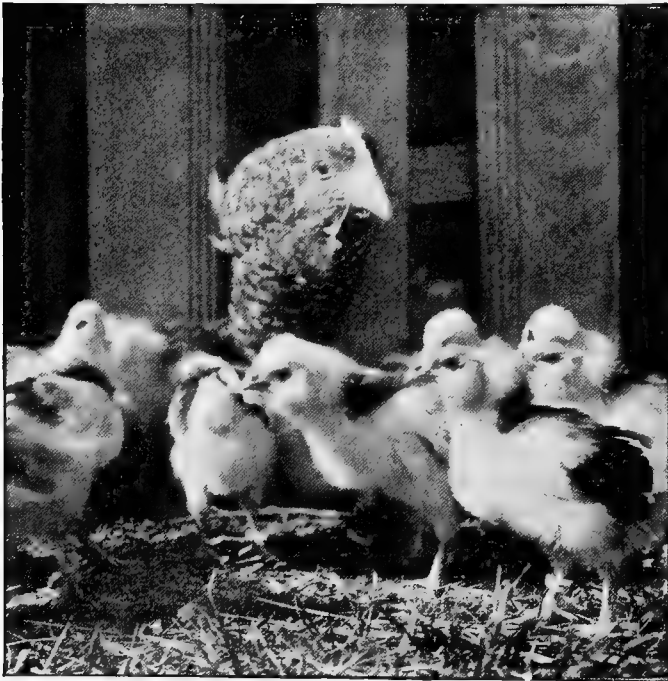
My preference is a dark male bird with a good greenish black for color to put with standard colored females. This mating will produce good colored birds of both sexes, perhaps a trifle too dark for exhibition, but they will moult into fine cocks and hens of the kind that will keep their color for years. If exhibition pullets are wanted—that is, of the kind that some judges desire, “even mottled white and black,” a lightish cockerel mated with dark hens will give the desired results, but such pullets will go to pieces, as far as color is concerned, after the first moult.

The mating I like the best and that every time will give the very finest results is a two-year cock of standard color mated to hens in their second season who have moulted into the standard colors. Here we have every-

thing that is desirable, and we are never disappointed in the offspring from such a mating. As the Houdan cock is a vigorous fellow, care must be taken to mate him with a sufficient number of females, say from five to eight, and most every egg will be fertile.

REARING AND MANAGEMENT

Houdan chickens are pretty little creatures when first hatched. In their black and lemon-colored furry garb, if viewed for the first time, a breeder may be apprehensive that something is wrong with his chicks. They don't resemble their parents at all. The black is on their backs, with a speck or two on their necks and on the top of their heads, while all the rest of the body is white. One of the first things we notice in a good



Photograph by C. E. Petersen

HOUDAN CHICKENS A FEW DAYS OLD

strain of Houdans is that the chickens have a projecting poll of fluffy down. The extent of this will determine the size of the future crest the bird will have when fully grown. To some extent, the same may be said of the beard and muffling, some chickens having a veritable cravat under the front part of the neck. The fifth toe is also in full evidence at this early date. It will show, beyond a doubt, its future shape.

Houdan chicks develop feathers with great rapidity. One can almost see the feathers grow and unfold. The day after hatching, the wing

feathers are visible. The feathering proceeds at an amazing rate. When chickens of other breeds are still in their furry garb the Houdan is all but fully feathered. As growth progresses they grow darker and darker in plumage. When about three months old, they are a pretty evenly mixed black and white. The black will continue to increase until, in the mature bird, we have a plumage such as is required by the Standard. Under no circumstances will it be wise for the inexperienced breeder to discard a young bird because of what may, in the beginning, look like a badly colored bird. As a general rule, if the strain is right the color of the chicks will be correct. There is one exception to this rule. I have already mentioned that in the newly hatched chicken a black spot is visible on the top of the head. If the chicken should be minus this black spot, and the poll entirely white, one can be sure of a very light-crested adult bird. Though the body of the bird will gradually grow darker until maturity is reached, I have never seen the same change take place as far as the poll is concerned. If a minute speck of black is visible over the bill of the chick, we will have in the adult bird a crest with a black frontage, but with too much white in the back. If the black runs up on the head, nearly meeting the black on the neck, we shall have a dark crest, almost black. Where the black is found in minute specks, two or three of them, we shall have an evenly mixed crest. These early manifestations of crest color are so sure that the experienced breeder can, in most every instance, pick out the chicks that give promise of future excellence. This, from the very beginning, makes it possible to separate promising chicks and give them necessary care.

Now and again a chick will first appear with spots of a reddish-brown. These will all disappear, without leaving a trace as the bird grows older. In my opinion, this is the old theory of a "thrown back" to the common ancestor of the fowl-tribe, *Gallus Bankiva*. I do not know a single breed that will not now and again produce the original red. When a violent cross is made from another strain, the red spots are more apt to appear than in a strain of years standing. No strain can be said to be absolutely immune from this curious reappearance of early characteristics in former ancestors.

The rapidity with which the Houdan chick develops its feathers emphasizes the necessity of good, nutritious food. In this respect, many breeders of the Houdan fail to bring their birds up to the required Standard

size. We say size knowingly, for if the size is there, a bird in good breeding condition will be up to the Standard weight also. The drain on the system at this time is great. If proper food is not given them, the results will



Photograph by C. E. Peterson

FIRST HOUDAN HEN AT BOSTON, 1902-1903

Special Courtesy and Use of Breeding Society C. E. Peterson

be under-sized specimens. Give them all they require, and no more. Good, sound food, fresh water, grit, and common sense in their administration, is all a Houdan chick will need.

It is a saying at the National Poultry Company establishment in Eng-

land that "you cannot kill a Houdan chick." It is literally true. Energetic, vigorous, active, always on the move, it will subsist where some breeds would starve. An American writer once said: "If there is a hole in your garden fence, a Houdan chick will be the first to find it. If the poultry-yard gate blows open, the Houdan chick will be the first out." No need of coddling that kind of chicks; they are born with a desire to live and to take their own part in "the struggle for existence."

I do not feed them the first twenty-four hours after they leave the shell. The majority do not need any food until then. The rest will not suffer by waiting a few hours longer. For the first meal, I give them a little fine grit, after which I feed them bread and milk for the first week or two—that is, crumble the bread and moisten it with milk. Notice I said moisten, not wet it. This, in my experience, will clear the crop and gizzard as no other food. It may be followed with pin-head oatmeal, cracked wheat, millet, and any other small grain the chicks can put away. I use a great deal of hulled oats. I know of no better frame-builder for the youngsters. Green bone may be used sparingly, if it is to be had. From the time the chicks are hatched, I mix just a little bonemeal in their food. It is a fine ingredient to help growth. Wherever it is used, there will be few or no complaints of bowel trouble or leg weakness. Early hatched chicks must be provided with green food of some kind. Lettuce can be sown in a shallow window-box. When a few inches tall it will supply all the green food needed. These early chicks should also be fed their last one or two meals by lamplight. Chicks hatched in February and March, for the fall exhibitions, will need this extra care. Night, this time of the year, is much too long for chicks to go without food. They soon learn to know what the gleam of the lantern means, and will come running out from under the hen or brooder-hover to get their last meal.

When the mother shakes off her chickens, they must be moved to quarters where they will not crowd one another. They will thrive best if kept in small flocks. A lot of light-colored birds I have always found to be the final result where a number of half-grown chicks were kept in ill-ventilated, crowded quarters where the heat was extreme. There is no doubt that the growing chickens do best where each brood can be accommodated with a separate house and run; but it very frequently happens that the amount of room at the disposal of the owner does not allow this. When this is the case, see that all of the chickens are of the same age, or nearly

so. Chickens of larger growth will crowd out their younger companions and gorge themselves with food unless special provision is made so that all will get their proper share.

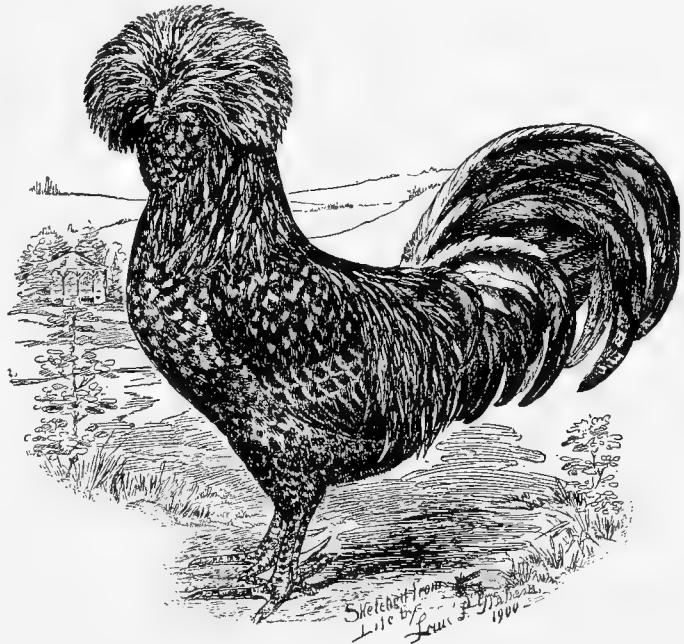
I watch carefully the growth of the crest as soon as it appears. Those that promise well are separated from the others. They need attention and particular care in feeding. As their crests develop, day by day their opportunity for fair treatment in sharing the daily rations grows. I have found, by experiment, that these large-crested pullets will not once in ten times get a morsel of food if thrown among the chicks piece by piece.

If the birds are not to be used or sold for exhibition, the matter is easily adjusted by cutting away the crest from around the eyes. This, of course, is out of the question where the birds are to be used for exhibition purposes. Some of the best-crested birds I ever saw in the exhibition halls of this country failed in size. To my mind, there is no doubt that it was owing to lack of attention in feeding. This treatment is needed only for the pullets. The differently shaped crest in the cockerel never obscures its vision to the same extent as with the crested exhibition pullet. The Houdans bred for utility purposes only need, of course, no such attention. Their crests usually are not large enough to be a hindrance in their development. To get fine birds, the cockerels, at from eight to ten weeks old, should be separated from the pullets. They should not be allowed to perch too soon, as the result is likely to end in crooked breast-bones.

A week or two later, the whole of the youngsters should be carefully scanned, and all but the really promising ones should be disposed of. Twisted or fallen crests, deficiency or deformities of toes, crooked breasts, backs, and beaks, will of course preclude any idea of prize-winning. These defects will, of course, not be found in a well-established strain of Houdans, where careful selection has been the rule for years. Do not, at this time, discard any birds that may seem deficient in crest or beard development. They will continue to fill out and develop until mature. In fact, the crest and beard will be finer and better after the first moult. Houdans improve in beauty as they grow older. It is very common to have cockerels fully three parts fledged before the beard is developed to any great extent. When three months old the birds are large enough to show with absolute certainty their future exhibition or breeding qualities. Birds that at this time give full proofs of their value as show specimens must be separated and given special attention in feeding and care. Their quarters must be

kept scrupulously clean. Plenty of straw and a good dust-bath will keep the plumage clean. There is nothing that will clean a bird so neatly as straw.

At this time it is of great importance to look after the crest. If a large and well-developed crest is desired, carefully go over it and remove all awry feathers. With the finger-nail, open the sheath enveloping parts of the feathers. It is astonishing the difference this makes in the growth and filling out of the crest. This care is responsible, to a great extent, for that perfect crest development so necessary in an exhibition specimen. Washing the crest with water in which a little carbolic soap has been dissolved will clean the scalp and keep away intruders. Another important matter at this time is to see that drinking-fountains are used in which they cannot im-



THE NOTED SIRE AND UNDEFEATED HOUDAN
SHOW-BIRD, "DANBURY"

Bred and owned by C. E. Petersen

merse their crests. If this is not done, the crest will become dragged and unsightly, falling over the eyes. When this occurs, the birds will pull the feathers out of each other's crests.

PREPARING FOR EXHIBITION

"Very few men are wise by their own counsel, or learned by their own teaching; for he that was taught by himself had a fool for his master." Remembering this wise saying of Ben Jonson, I have given my own methods

in preparing Houdans for exhibition, and those of others, gathered from various sources. As the show season approaches, the birds should be sepa-



HOUDAN COCK, THE CHAMPION CHALLENGE CUP
WINNER AT BOSTON, 1903

Bred and owned by C. E. Petersen, Maine. Pronounced by expert judges to be the
best Houdan male shown in America. A great grandson
of the noted sire "Danbury."

rated. Give them a rather more liberal diet, but excess should be strictly avoided. There should be no approach to fattening, if you do not want to ruin the birds for future use in the breeding-yard. A single coop should be given each specimen, if possible, as this will facilitate handling and encourage tameness in the specimens prepared for exhibition. Very often really good birds are passed by the judge simply because they are of a wild or timorous nature, crouch in the corners of the coop, and look their worst instead of their best. Many an exhibitor knows this too well. On the other hand, a tame, well-trained bird will stand upright in front of the coop, appearing pleased to court observation.

I begin handling my birds when they are only a few days old. I can pick them up most anywhere. They seem to like it and seem to know that I am their friend. Never use a fretty, afraid-of-you, suspicious-of-everything hen for a mother. She will soon teach the whole brood her own wicked ways and make work harder. Valuable birds are frequently unfitted for exhibition through untimely loss of their feathers, more particularly those of the tail. This is mainly caused in small yards by their being

constantly worried by tyrannical companions. To get away, the unfortunate bird rushes into corners and out-of-the way places to escape punishment. In a little while the mischief is done. After yarding the birds intended for exhibition, watch them carefully so as to be sure that they are on good terms. Wherever conditions are such that it can conveniently be done, each bird should be penned singly at least one week before exhibition, to receive the finishing touches and get used to the pen. As a good method of preparing choice cockerels for exhibition, it has been suggested to place them, like younger school-boys, under the ken of a superior and older monitor, who by his influence can keep the youngsters under surveillance. To any one observant of the manners and habits of poultry, this domineering spirit of the older cocks is naturally familiar, and forms an excellent discipline for training the younger ones. To those who have regarded the consequential bearing of a young cockerel subject to the delicate attentions of two or three wide-awake hens, this must have been plainly obvious, and has led more than one successful breeder to pursue this plan of placing, some days before the intended exhibition, a promising cockerel with one or two

hens, thereby bringing him out with no mean opinion of himself, so that, when he appears at the show, he will, after the previous



Photograph by C. E. Petersen

A FAMOUS PRIZE-WINNING HOUDAN PULLET

Bred and owned by C. E. Petersen, Maine

treatment, exhibit his quality and style to the greatest perfection of Houdan excellence.

In making a pen for exhibition, be careful that the birds match one another as much as possible in markings, size, crest, and style; the cock

must match in general appearance the females he is to accompany. If one of the females should have a much larger crest than her companions, she will completely outshine what otherwise would have been good birds. The same thing is true where a female is much larger than the others.

Never put an old *passé* cock in an exhibition pen. To the intelligent breeder it only shows deficiency in exhibition males. I have always maintained



Photograph by C. E. Petersen

FIRST BOSTON HOUDAN COCK, 1902

Bred and owned by C. E. Petersen, Maine

that the cock unfit to breed from is also unfit to exhibit, and should be debarred from competition. Fowls should, under no consideration, be sent to a show with their crops full of hard grain. The treatment of birds on their return from the show-room is frequently of still more importance. Although a Houdan will stand the fatigue and excitement of showing as well as most breeds, the feeding and care at many shows are

guided more by a sense of convenience than by what is most required on the part of the birds. Such fowls not properly cared for often evince a feverish tendency on their return home.

Be careful how the birds are entered, and see that each label is fastened where it belongs. Be equally watchful that the right bird is put in the proper place. The day previous to sending the birds to the show, their crests should be thoroughly washed and their feet carefully cleansed and polished. A nail-brush will do good service in cleaning their legs. After drying, a few drops of sweet oil well rubbed into their legs will put a fine gloss on them, and very much improve their appearance. Do not oil the red on the male bird, as the slightest exposure to dust will make these parts look infinitely worse for the operation; diluted vinegar will give the desired result without any attendant drawback.

Whenever we accompany our birds to the place of exhibition (and we generally do), we attend to these things the morning the judge is to handle them. We also see that the water cup is empty, otherwise the birds will wet their crests, which makes them appear unsightly. From shell to exhibition, it is these little things that bring the bird into full perfection.

The old birds need the same careful attention. A watchful eye should be kept over them continuously, providing they are to be used for exhibition purposes. Many a fine Houdan has been ruined by being left to itself after the show season was over. Particularly during the time of molting, they need the most attention and the best of care, otherwise a good crest development is an absolute impossibility. It takes from six to eight weeks to properly grow a good, full crest. I prefer to have the birds molt their crest before the rest of the feathers. When I know that the crest-feathers are dead and dry in the quill, I pluck them all out, being, of course, careful not to pluck out any feathers in progress of growth, and there are always some few. All the strength of the bird's system will be expended in growing the new crest, which, most always, will begin to grow out in a week's time.

The birds thus treated should be kept in a place where no strong light will enter. They should be kept separate, otherwise they will work on the old motto, "Scratch me and I will scratch you." This will usually end in eating of the budding feathers. During this time (no other time will do), feed to each bird twice a week as much saccharated carbonate of iron as will lay on a penny. At the same time, mix a little melted fat

in the soft food. The result will be surprising. Follow this treatment during the general molt, but alternate with a tablespoonful of sulphur to every six fowls—that is, give the carbonate one day and the sulphur the day following. Don't give the sulphur on wet days. This treatment will put the bird through an easy and quick molt, and will give the much-desired glossy, greenish sheen to the plumage. During the period of molting, we will observe that all fowls are in the habit of cleaning their feathers from the sheath which covers the webbing while the feathers are growing. It is impossible for the bird to perform this act to its crest, and unless personally taken in hand it will often never properly grow a full crest. During the time the crest is growing, examine the bird occasionally, and if any of the sheaths of the feathers appear dried up, carefully run your thumb-nail through it, and in a short time the webbing will properly expand. All this means time and trouble, but to the genuine fancier, who is always something of an enthusiast, no trouble is too great as long as the desired result is attained. When the prize, or cup, is carried off as the reward, there is the satisfaction of feeling that success was honestly earned.



FAVOROLLES
The property of MR. T. R. ROBINSON.

THE FAVEROLLES *



IN a recent article in the *American Poultry Advocate* Dr. A. H. Phelps, of New York, said: "Since 1896 there has been much attention given to this breed of French fowls by breeders in England, where they have been steadily growing in the favor of utility poultrymen until the present time.

While there has been no boom or extravagant advertising methods adopted to force them to the front, as has been the case with Orpingtons and several recently introduced varieties, yet they have, by reason of their wonderful rapidity of growth and fine laying qualities, constantly advanced, and are now so well established that finely marked specimens command the highest prices of any purely utility bird at all the great shows of Great Britain. Last season there were scores of Faverolles pullets sold at from ten to twenty-five pounds each. The last eight years has brought about great improvement in the birds through the careful and scientific methods of English breeders, and from the mongrel-colored barnyard fowl of France has been evolved a definite type which is as fixed and breeds as true as do Barred Plymouth Rocks or Brahmas.

"The real exhibition specimen of the Faverolles is, however, not to be found in every chick hatched; they are the exception, just as they are in Barred Rocks, Light Brahmas, and most other vari-colored breeds. This comparative rarity of show specimens is not against them, however, as their desirable utilitarian properties are as fixed as those of any breeds of fowls in existence. While it is the exception to breed a pullet having neck feathers free from black and breast pure straw color, and while it is not every cockerel that has a pure solid black breast and back of straw, free from brown; and again, while it is not rare to find that your chicks are hatched with four toes where the Standard tells you that there ought to have been five, it is a certainty that you will have a pullet that will lay eggs all through the cold winter months, and that your cockerel will be ready for marketing as a broiler or roaster in two-thirds the time required to bring any other breed in existence to the same stage. The breeder of

* This French breed is growing in popularity in the United States.—EDITOR.

Faverolles will get a fine show bird only occasionally, but he will get a first-class utility fowl every time.

"The writer owns many thoroughbred imported Faverolles, comprising each of the varieties of the breed, English Salmon, English Ermine, French Salmon, French Black, and Blue Faverolles. The English Salmon variety is the most highly developed and most popular. The cock birds are marked almost identically like the dark Brahma, the comb is single and of



Photograph by A. W. Scott

SALMON FAVEROLLE COCK
Owned by Dr. A. H. Phelps, New York

medium size, while the face and throat are protected by a dense whiskering of black feathers, slightly marked in most birds with gray; this whiskering is one of the fixed characteristics of the entire breed, and is not unlike that of the 'Old Muffle Chops hen' of half a century ago. It is not, however, an impediment to the bird's vision, and possesses none of the disadvantages of the breast feathering met with in the Houdan and Polish breeds.

"It is, in fact, a valuable protection to the bird's throat and face

during cold weather and contributes much to the natural hardiness of the breed. The breast underparts and fluff are black, and the short, broad, Brahma-like tail is of the same color, with a rich greenish luster. The neck and rump hackles and back are a light straw. The skin and feet are white, and the shanks are sparingly booted. The hen is in marked contrast to the cock, having creamy white bearding and breast and brown hackle, each feather being lightly penciled around the margin with straw color, the back and wings are salmon colored or wheaten, gradually blending with the cream color of the breast. A little black appears in the tail and

flight feathers. The comb of the hen is single and very low, scarcely appearing above the feathers.

"Ermine Faverolles resemble Light Brahmas in coloring, while the French Black Faverolles resemble Langshans, which they equal in size and very much exceed in rapidity of growth and laying properties. I have great faith in the future of both the Black and Blue Faverolles and am preparing a fine breeding-pen of each for the season of 1905. Personally, I believe these last two varieties to be superior even to the Salmon Faverolles, and very much superior to any other breed of general-purpose fowls I have ever had any experience with."

The authorized standard of Salmon Faverolles, prepared by the Faverolles Club of England, is here quoted by permission.

Cock

Comb.—Upright, single, medium size, four to six neat serrations, free from coarseness or any side work.

Wattles.—Small, fine in texture.

Beak.—Stout and short.

Head.—Broad, flat and short, free from crest.

Neck.—Short and thick, especially near the body, into which it should be well let in.

Back.—Flat, square, very broad across the shoulders and saddle, and of fair length. The back of the hen is longer than in the cock.

Breast.—Broad, keel bone very deep and coming well forward in front, but not too rounded. A hollow breast very objectionable.

Sides.—Deep.

Wings.—Prominent in front, but small, and carried closely tucked to body.

Body.—Thick, deep and cloddy.

Tail.—Feathers and sickles stout, medium length. A flowing tail carried low or straight objectionable.

Thighs.—Short, wide apart, plenty of body between them.

Shanks.—Medium length and stout, straight, slightly feathered down to outer toe. Knees straight, carried well apart, narrowness or tendency to be in-kneed very objectionable.

Toes.—Five, the fifth toe totally separate from the fourth.

HEN

Comb.—Similar to the cock, but much smaller, and very neat and fine in texture.

Neck.—Short and full, carried straighter than in the cock.

Back.—Broad and flat, longer than in the cock.

Breast.—Deep, full and prominent, keel bone longer than in the cock.

Body.—Generally longer and deeper than in the cock.

Tail.—Fan-shaped, feathers broad, stout and medium length, carried midway between upright and drooping.

Toes.—Same as in cock.

POINTS OF COLOR, ETC.

COCK

Beak.—Horn or white.

Face, Lobes and Wattles.—Red, both partially concealed by muffling.

Beard and Muffling.—Full, wide, short and solid black.

Hackles.—Straw.

Back and Shoulders.—A mixture of black, reddish-brown and straw.

Breast.—Black.

Wings.—The wingbow straw, the wingbar black, and the secondaries showing white on the outside.

Thighs and Under Fluff.—As black as possible.

Legs and Feet.—White.

Carriage.—Active and alert.

HEN

Beak, Face, Lobes, Wattles, Legs and Feet.—Same as cock.

Beard and Muffling.—Creamy white.

Head and Neck Hackle.—Wheaten brown, striped with same color of darker shade.

Back and Shoulders.—Wheaten brown.

Wings.—Similar to back, but the colors are softer and lighter. Primaries and secondaries wheaten brown.

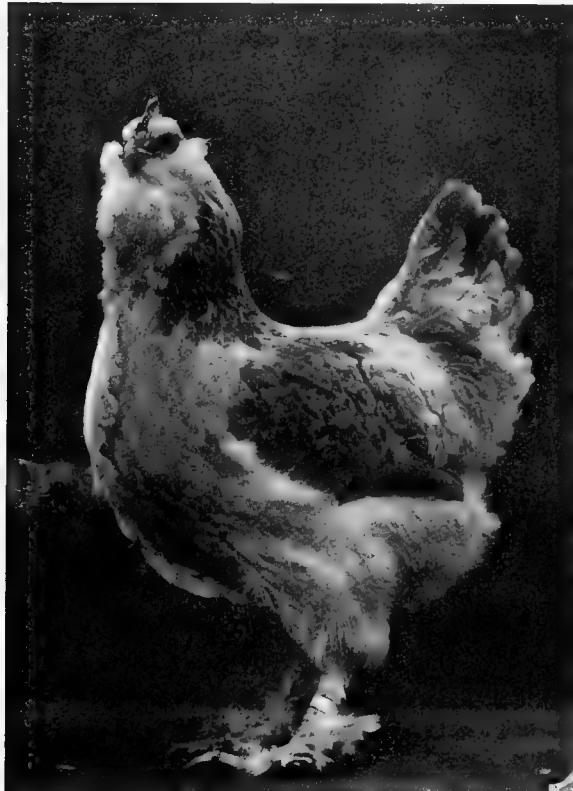
Breast, Thighs and Fluff.—Cream.

Tail.—Wheaten brown.

Weights.—Cocks, 7 to 8½ pounds; hens, 6 to 7 pounds; cockerels, 6½ to 7½ pounds; pullets, 5 to 6½ pounds.

POINTS TO DEDUCT

Bad Combs.....	10
Insufficient Muffling.....	20
Defective Color.....	25
Want of Symmetry.....	20
Want of Size.....	15
Want of Condition.....	10
	—
Total	100



Photograph by A. W. Scott

SALMON FAVEROLLE HEN
Owned by Dr. A. H. Phelps, New York

THE CRÈVECŒUR *



R. WEIR considers this one of the most useful of the French breeds. The birds are large and handsome in appearance, and also possess fine table qualities. They are strongly built, full-breasted, and broad in the back; the thighs and legs are somewhat short and fleshy, though not hard; the shanks and feet are nearly black, especially when young, and there is a general attractiveness in their appearance which goes far to win attention. The cock has a peculiar beauty in the profusion of the head, throat, face, and neck feathering, which, partially covering the eyes as it does, gives a timidity of action generally discernible among the tufted or copped fowls. The wings are large, the body medium length, and the tail very full and well sickled; the feathers of the breast, back, and sides are somewhat longer than usual, and have a mellow coolness to the touch; the comb is peculiar, being divided or forked, having a full base, and stands either horizontally or at an angle of forty-five degrees. It is purely a matter of opinion as to which is preferred. However, I like those having the comb turned toward the top-knot best. The hen has a fairly large rounded top-knot, with a smaller comb, divided like that of the cock, and a small white ear-lobe of a pearl color, which is almost hidden by the cheek or face feathers. It is regrettable that the present "fancy" is to enlarge the head feathering, not only to an unsightly degree, but so much so as to be a hindrance to the bird's freedom of action, and in a degree injurious to their health. This may be remedied by cutting "the preponderance" off, or at least the side portions, during the breeding season. Still, they are bright and lively, and excellent foragers, though at times somewhat dazed and overweighted with their headgear, especially in wet or dirty weather. I found them to be excellent layers of fairly large white eggs, and quite as hardy as most of the feather-crested varieties. They have also the straight beaks and large, full, open nostrils of the Polish or old Hamburg fowls, and, like

* Although not common in America, this splendid French breed is becoming more popular each year. Crèveçœurs have been admitted to the American Standard of Perfection.—EDITOR.

them, are a little inclined to colds and catarrh. The eye is dark, large, and full. It is a very popular breed in some parts of France. When staying at St. Servan, Dinan, and St. Malo a few years since, I noticed that the Crève-cœur was the principal fowl offered for sale in the market, where they were mostly bought alive, and if unsold carried home, to possibly reappear on a future day.

Though an old breed, it is not so old as some others, and is not mentioned as a distinct one in a list published in 1810. It is known as the Picardy or Normandy breed, and takes its name from the village of Crève-cœur, in the Department of l'Oise, where some attention is paid to the keeping of the breed pure; and it is from this place that the best bred, the birds having short and thick bodies, can be obtained. It is a good layer, averaging 110 to 120 eggs per annum, the eggs being of two and a half ounces' weight.

When the chickens are hatched they are very pretty, showing the top-knot; in color they are black, with white on the breast; and in their first feathering they not unfrequently have white in the wings and tail, which generally is moulted out in the nest, and they become a soft, clean, uniform black. Any tendency to white or speckle must be avoided, and none of the self-colors matched as breeding-stock; although I bred a considerable number, there was no white in the adult birds.

The growth of the Crève-cœur chicks is very rapid, and they feather well; at five to six months old they are fine, fleshy, and well developed. I have found them to fatten easily; getting into good condition, if well fed, without being penned, or if so, but for merely a few days to "finish," if it was desirable. The breast meat is very white, and the texture good and juicy—very different, in fact, to that of the close, hard, scaly feathered Cornish Indian, at the present time so much in "the fashion." The pullets are especially plump and square, and are much in request, producing high prices, and deservedly so, for as table fowls they are excellent.

Although the hens are good layers, they are not so useful as sitters, and to avoid disappointment I either used other hens or put the eggs in the incubator. When the hens became "broody" they were easily prevented, and soon ceased to have the inclination; my usual plan being to shut two or three together in a coop in another run in company with a different cock; they are a breed, however, that are impatient of confinement, and require a good run to keep them in full health.

M. Ch. Jaque, in *Le Poulailier*, thus writes of the Crèvecoeur: "This admirable race produces certainly the most excellent fowls that appear in the markets of France. Its bones are even lighter than those of the Houdan; its flesh is fine, short, whiter, and it takes more easily to the fattening process." (This, by experience, I have found to be correct.) "The chickens are of an unheard-of precocity; they are ready for fattening when they have attained two months and a half or three months, and for eating fifteen days after." These, of course, are quite chickens, and by no means full grown, and they were equaled in this respect by some of our old Kent, Sussex, and Surrey fowls, or rather chickens, both in quality and size; though at the present time the Crèvecoeur have the advantage of squareness and plumpness, our five-toed breeds having been so persistently crossed with the Shanghai and the so-called Brahma as to produce a different shape. "But," continues M. Ch. Jaque, "at five months old a bird of the breed (Crève) is nearly complete as to size, weight, and quality—the young fat hens (pullets) at five to six months have attained the weight of three kilogrammes (six and one-half pounds). It is the Crèvecoeur that make the 'fatted' hens and fine chickens which are sold in the market of Paris. The Crèvecoeur is the first breed in France for the delicacy of its flesh and the ease with which it is fattened." As far as my own experience goes, this praise is not too much; I was perfectly satisfied with them.

M. C. Lemoine says that "in Normandy the raisers only go for the whiteness of the flesh; they are not concerned about increasing the size of their birds; the latter are well marked, but they do not attain the remarkable size of the specimens raised by some amateurs." And in this the breeders are perfectly right; it is the foolish craze for size and its consequent coarseness that has been the bane and the destruction (as far as table poultry is concerned) of some of our very best breeds. "But," adds Lemoine, "on the other hand we must say that these raisers understand their business perfectly" (far better than we in England). "They commence by selling the eggs at the time when the prices are highest at the markets of Lisieux, of St. Pierre-sur-Dives, Pont l'Évêque, etc. When they are cheaper, the eggs are generally hatched under turkey hens, and the pullets sold at four months old. In order to sell readily they cram these a fortnight before the market day; the pullet is sold the moment the food ceases to produce flesh." It would be far more profitable to the English raiser if he followed more closely the examples set him by our

thrifty neighbors. "In short," says Lemoine, "they do not do the rearing, having other occupations in the month of June. They sell the *petits poussins* to persons who are not, properly speaking, raisers, but who keep pullets for their own consumption, and here they still make a profit."



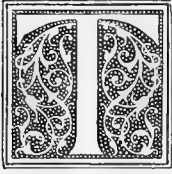
Photograph by Prof. W. G. Johnson

BLACK LANGSHAN COCK

Owned by R. P. Keesbey, Connecticut

Prize-winner, New York, 1902

THE SILKIES*



THIS is one of the oldest breeds known, although the date of its origin has been often combated. A variety with naked shanks and four toes is mentioned by Gesner, who lived during the first half of the sixteenth century. Aldrovandi, who wrote on birds in 1645, describes a fowl covered with hairy wool, like a hen in sheep's clothing.

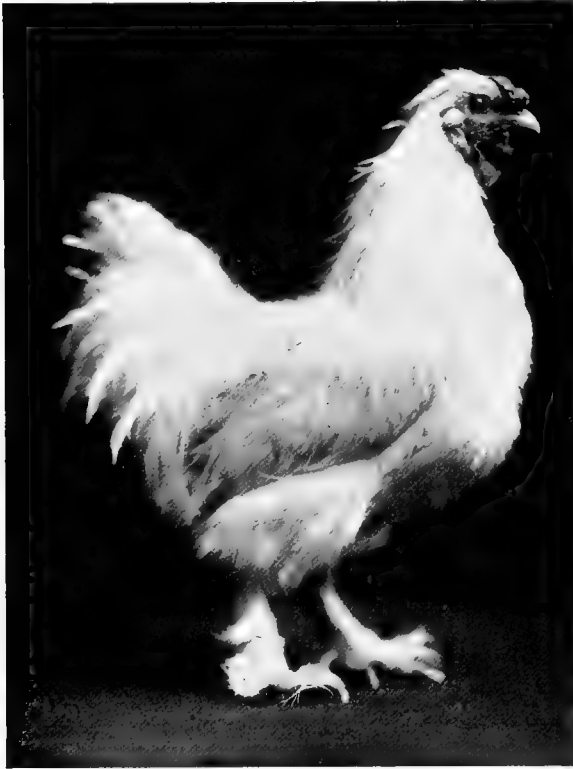
Willoughby, in his translation of Ray's "Ornithology," 1678, utterly repudiates the statement as fabulous.

Later, Latham mentions the fowl under the name of *Phasianus lanatus*; and a full description of it is to be found in a treatise on the breeding, rearing and fattening of poultry, 1810: "The feathers, having webs with no adhesion to one another, have the appearance of down or rather of hair; hence the name 'silken' is also applied. This fowl is white, and about the size of the common fowl. It is clothed on the legs, but only outward till the beginning of the claws, and on the outward claw to the first joint of toe or nail. It is found in Japan and China, and is easily adapted in our climate." This is the breed which gave rise in 1776 to the fable of the rabbit-fowl, shown at Brussels as the produce of a rabbit and a common hen. It was merely a downy fowl of Japan. Buffon was for a long time teased by the letters of two pretended "observers," of Brussels, one of whom was a prebendary, the other a Jew merchant. They were continually writing to convince him of the existence of the rabbit-fowl. Buffon answered by arguments that proved the impossibility of the fecundity of such a disproportioned connection. Their credulous obstinacy at last put him out of temper, and he answered them by a joke—which forever rid him of the importunity of the Jew and the prebendary. The Silkies have been mentioned by several other writers; but the same description is given so that it is needless to quote them.

Nolan writes in 1850: "There is a large variety besides the small one;

* Silkies are not generally seen in American poultry yards, but are usually entered in limited numbers at our shows. They were admitted some years ago to the American Standard of Perfection. This chapter is practically as it appears in the English edition of Mr. Weir's latest work.—EDITOR.

the large of many colors, the small usually white. For many years I have had the small white, which were imported from Sumatra, and I have most successfully hatched by them gold, silver, white, pied, and



Photograph by courtesy of Mr. Radford

JAPANESE SILKY COCKEREL

First at Wisconsin Show, 1904. Bred and owned by Frank W. Radford, Wisconsin

brown pheasants. Nothing could be better adapted for these than the fine, downy, silken, or woolly coat, and the Silkies are most careful and invaluable nurses. Though their plumage is white, their skin is black; their flesh is coarse and of unpleasant flavor; their bones, after cooking, are always pink, so that the fowl has the appearance of being underdone. They will breed readily with most other varieties, but in no case is crossing desirable for enhancing the value either as a table fowl or an egg-producer." Mrs. Campbell, of Uley, Gloucestershire, crossed a white Dorking cockerel and Silky hens with very curious

results. The cockerels were white feathered, but the flesh and skin were black and white, as well as the shanks. Even the inner parts were of the two colors, the rough muscular lining of the gizzard being of the ordinary yellowish-gray spotted with black. This is interesting as showing by coloring how far the two breeds had amalgamated. In the cocks, the Silkie seems to have predominated over the Dorking strain, but the hens were much darker, both in shanks, face, and ear-lobes. This exemplifies the curious fact that in breeding for white shanks, feet and toe-nails, in the Game or Dorking breeds,

it is much easier to produce cockerels with clear-colored shanks and feet than pullets. Not only will the poultry yard testify to the correctness of this statement, but an examination of the show-pens will largely confirm it. A cross with the Langshan has been found to produce progeny with Langshan shape, but silky instead of feathery. I have seen some of these which have the appearance of a sub-breed of fowls, and they are said to repeat themselves for several generations, but of this I have no absolute proof. A silky, downy, or hairy Cochin hen was shown in London at Baker Street in the early fifties under the name of the Emeu fowl. Bred with the ordinary Shanghai, its peculiarities did not continue; though some buff Shanghai cocks that were used had a decided tendency toward silkiness, particularly on the back, lesser wing coverts, and saddle.

Some forty or fifty years ago, a black variety was shown by Mr. Cross at the Surrey Zoölogical Gardens. These were precisely the same as the white of the present day, except in color. The comb, face, and wattles were a darker purple, and the ear-lobes a deeper and more vivid blue. The keeper called them the "devil fowl," and they were also known as "Negroes." Even the eggs were sooty, light brown. There is also a white variety with bright red comb, face and wattles, but this is not believed to be pure bred, though, even in habit, it closely resembles the black-fleshed and crimson-wattled bird. The Silkies are in great request



Photograph by courtesy of Mr. Radford

JAPANESE SILKY PULLET

First Wisconsin State Show, 1904. Bred and owned by
Frank W. Radford, Wisconsin

for incubating the eggs both of game and poultry. Mrs. Campbell, of Uley, Gloucestershire, uses them for hatching her Brahma eggs, and finds them excellent sitters and mothers—probably unsurpassed in this respect. They are also precocious layers, often beginning to lay under four months.

The chickens when hatched are a light buff. They are hardy and easily reared. The comb of the cock is diminutive, rather thick, and inclined to a sectionized knob, though sometimes single and serrated; wattles small, and, like the face, of a deep blackish maroon; the ear-lobe blue, with a tinge of green in some lights; the shanks and beak dark slate or blue, and covered on the outside with hair or wool; toe-nails white. They should have a full lark-crest coming to a point at the back of the head; that of the hen is rounded. "They are small, the usual weight being two and one-half pounds to three pounds for the cock, which stands about eighteen inches high, and the hen weighs two pounds and stands eleven inches high" (Nolan, 1850, page 33). In the *Treatise* (1810) there is mention of the Negro fowl (*Phasianus niger*—Latham): "This differs from all others, as it has the crest, the wattle of the bill, the epidermis, and almost always the feathers of a black color; the plumage is sometimes white. It is common in Java, the Philippines, in some parts of northern Asia, and Africa. It is also reared in France, but merely out of curiosity, for when its flesh is dressed it turns black, and is ill-tasted; it seems as if it were boiled in ink." This is evidently a different breed to those exhibited by Cross at the Surrey Zoölogical Gardens, because it was feathery, while the others were downy or silk fowls.

"From the mixture of Negro fowls with other breeds arise mongrels, which usually retain the black crest (comb) and wattle.

"This breed of fowls has been carried to the hot parts of America, and has increased. 'In Paraguay,' says M. d'Azara, 'Buenos Ayres, and in the Cordilleras of the Andes, there are tame fowls of common and other breeds, which do not differ as to shape, and which have their feathers, legs (shanks), comb, wattles and skin black as the Negroes of Guinea. When dressed, their skin is still black; their flesh is more insipid and of a darker color than that of the common fowl, and their bones are plainly more opaque. They reproduced and intermixed with common fowls and made mongrels. Their eggs are white; and some people value these fowls because they are said to be more fruitful, and their flesh more fit to be given to sick persons. They probably descend from the common Spanish or

Canary breeds brought by the Conquerors.'”—*Essai sur l'Hist. Nat. des Quadrupeds du Paraguay, trad. Fran.*, Vol. II., pages 320 and 324.

“Besides the Negro fowl, there exists in some parts of Africa, and at Sumatra, another breed still darker, as its very bones are black as jet. Marsden's ‘History of Sumatra’ makes this distinction between it and the Negro fowl, also found in the island, of which he has written the history.”

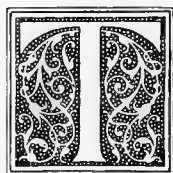


Photograph by C. J. Ross

FIRST PRIZE BUFF COCHIN

Madison Square Garden, 1904. Bred and owned by J. D. Nevius, New Jersey

LA FLÈCHE*



HE breeds formerly known as La Flèche, the Bresse, the Caux and the Mans were so nearly akin as to be considered almost, if not entirely, the same, varied by selection and locality, and they are at the present time called exclusively La Flèche. The origin is unknown. It is called the "Horned Fowl," and is peculiar to the Maine Department of France. Maister Prudens Choiselat, in his book, "A Discourse of Housebandrie," 1580, writes "that in the choice of the cock you shall consider the plumage of feathers; the black, red, or tawnie are the best; also that they have their combs or crests upright, and double or divided." This may be the same breed as the present La Flèche having a divided comb. He further recommends the getting of the best birds from Angeow, Touraine and Lodumoys, with Britaigne. "M. Jaque," says Mr. Latrône—to whom I am indebted for part of the information used in this article—"believes that the origin of La Flèche is unknown." Its fame can, however, be dated from the fifteenth century, according to the relations of some of the old historians, "but it is doubtful if the origin does not date even further back." M. Jaque adds: "It was at Mans that these fine fatted fowls were first produced; afterward at Mizeray, then at 'La Flèche.' They have been called by different names, but the chief industry has comparatively ceased at Mans. There is a variety known by that name, but the truer and the best 'are those preserved at La Flèche and the neighborhood.'"

However this may be, there is a certain appearance of the Spanish fowl, in the shape, action and carriage, and the ear-lobe is white. Some are slightly tufted, or "lark crested," others more so, and a few clean-headed. The comb is divided into two horns, somewhat large, upright, or with a lateral inclination, giving the bird a wild, weird expression; the wattles are full size and pendulous; ear-lobe, small and white; the plumage is black, the feathers of the neck abundant and long, and likewise those of the saddle; over the black color is a sheen of violet, crimson, and green, which has a

* This chapter has been thoroughly revised by Thomas F. McGrew, with comments to meet American conditions.—EDITOR.

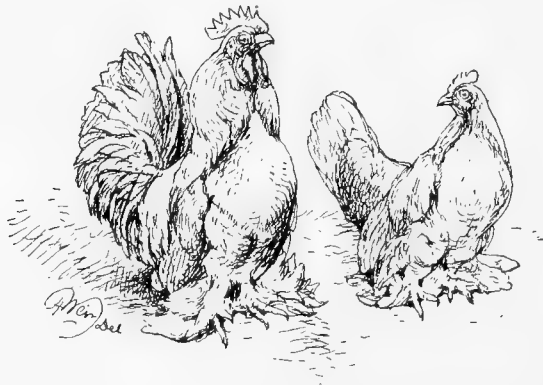
flickering brilliancy in sunlight. The carriage of the body is stately, and rather upright; the step is firm, yet elastic; the body much larger and heavier than it appears, on account of the closeness of the feathering, which gives a compact, yet elegant outline. While its pose is generally graceful, like that of the high-bred Spanish fowl, at times it has the shrinking timidity of the Crève-cœur, with which it is said to have been allied. The flesh is white, short-grained, delicate, juicy, and tender, with thin white skin, and the fat is also white. The breast is full, meaty, somewhat long, and fattens well, as do the thighs, legs, and especially the back, which, in heavily crammed birds, obliterates all sight of the flesh.

The shanks and feet are very dark slate—almost black in some cases—but this depends much on locality and conditions. If much exposed to sunlight, they become a leaden gray. They are of a medium length, hard, and fine in bone; the eye is large, prominent, full, and bold, with a rather fierce and commanding expression; head strong-made, beak dark, strong, and somewhat curved; the abdomen small in the cocks, but less so in the hens; both sexes are broad across the upper part of the back and shoulders. As may be expected in so excellent a table fowl, they are but indifferent layers, mine rarely averaging more than 110 to 120 per annum—the last an outside number. Being well-rounded in the breast, robust, and rarely ill, if kept on dry soil, they are suitable for fattening for market or table purposes when their excellence is not damaged by mongrelizing. Of all the French breeds, this is held in the highest esteem, and rightly so, for its fine qualities as a culinary fowl. Its name carries its own recommendation and a ready remunerative sale. The fowls are usually fed on corn, and are voracious feeders, so must not be fed more than twice a day, or they will get too fat and then become unhealthy. The chickens are raised in the usual manner, and as they grow older their food may consist of buckwheat, bran, and some ground oats, mixed into a crumbling paste, for the first six months. As time goes on the bran ration should be increased and that of meal decreased. Hard corn is not generally used, but green food and herbage should be abundant. At an early age, the cockerel and pullet chickens should be separated, as they are found to thrive much better apart, and there is also far less quarreling.

La Flèche, like most of the larger, firm-fleshed poultry, is somewhat slow in getting its growth, but when this is attained there is no fowl that lends itself more satisfactorily to the fattening and finishing process, or

more amply repays the operator for the trouble and expense incurred. The bachelor cockerels and the maiden pullets are equally good for the purpose, and the latter are called *poulardes*. These take about nine or ten months to attain their full growth and high quality, and they continue to develop during the winter months, when, just before the time of laying, they are considered to be at their very best. The finest of the pullets sometimes reach the weight of nine pounds, and the cockerels eleven to twelve pounds, or even more. The fowls intended for fattening are kept on soft food throughout, and it is only those reserved for breeding purposes that are fed with hard grain of any sort, to give them more strength and stamina. In England, all the chickens being reared are fed alike, and grain is given to all. In this matter the French are not so wasteful, and the birds destined for the table are thus brought to the required degree of maturity at a much lower cost.

Considering the high excellence of the breed, in quality, texture, quantity and flavor of flesh, it is surprising that La Flèche is not more appreciated, and kept in this country; but possibly the day is not far distant when it will be found that the best of everything kept for sale is that for which there is a demand. When that time arrives, many of the French breeds will be sought in all their purity, and not the least among them will be the almost unsurpassable La Flèche. One difference between French and English people is that the former understand and appreciate what is a good table fowl, while the latter only think they do. If the idea were not illusionary, there would not be seen on the poulterers' stalls such bony, coarse, skinny forms as now are shown and sold as good market fowls.



Drawn by Harrison Weir

THE MANTES *



HE plumage of the Mantes fowl is speckled like that of the Houdan; sometimes black, sometimes white preponderates. It differs from the Houdan in having but four toes, and no feathered crest; its head is ornamented with a fairly large comb, which in some cases is upright and in others falls to one side. Those that I have seen had upright combs and were dark in color. They had full, large cravats, and some whiskers. The Mantes is very easily fattened; the flesh is good and fine in quality; it is an excellent layer, and the eggs are large and clear white. The hen is a sitter, and is reported to be an excellent mother.

The cock is larger than the Houdan, and somewhat broader in the front part of the breast, sloping toward the legs and abdomen. The thighs and legs are thick and somewhat short; the shanks of medium length; the comb is rather large, spiked, and upright. Those that have kept them in England report very favorably of the breed, and consider it a useful adjunct to the English farmyard. Its weight is: for cocks, seven and a half to nine and a half pounds, and hens about a pound less. When fattened on milk and buckwheat meal, the flesh is of the highest quality and color. Its home is Normandy, especially in the Department of Aude; but some—the best at the Paris Show—came from that of La Sarthe, where also the Crèveœur is extensively bred and fattened.

* Few fowls of this breed are seen in the United States. Recently several importations were made by Wallace P. Willett, of New Jersey —EDITOR.

LA BRESSE *



IN the "Treatise on Poultry," published in 1810, the Bresse fowl is described as "a breed similar to the Caux, which supplies capons in repute among gluttons." Though this may have been true nearly a century ago, there is at present a dissimilarity, La Bresse having considerably advanced in the esteem of both the English and the French market poulterers. It is now among the best of the Continental breeds, though by no means equal to the Crève-cœur and La Flèche for the higher qualities of a first-class table fowl. They were first brought into notice in this country by Mr. Christie of Fenchurch Street, but though highly appreciated they have lately been neglected. They are a full-breasted fowl with tender flesh and excellent flavor, and fairly good layers of pure-white eggs, but it is felt that they do not surpass or even equal other breeds already on the market.

M. La Perré de Roo, in his book on Poultry, speaks of the breed in these terms: "This charming race, of which we do not know the origin, is probably the result of crossing the common breed and the Andalusian" (those that I have seen do not convey this idea to my mind, but appear to me a superior kind of some breed anciently domesticated in Italy or France), "as the erect comb in the cock, and the falling one of the hen, allows us to suppose. But the breed seems to have been fixed for a very long time, and is by no means wanting in characteristics sufficient to raise it to the rank of a distinct breed, though it has an immense comb, single, and carried erect in the cock, and folded in the hen, with triangular, deep and acute indentations, like the Andalusian." It is evident that here M. La Perré de Roo refers to the ordinary Spanish fowl as the Andalusian, formerly known here as the Red-faced Spanish, now as the Minorca. "The cock is extremely elegant in shape, the neck hackle thick and long, the tail ornamented with long sickle feathers, forming a magnificent cluster; its movements are graceful and lively.

"The hen is identical in form of body with the Andalusian, from which

* An occasional La Breese is seen in our poultry yards, but it is not a common fowl.
—EDITOR.

she differs only in having a little less tail, and cheeks less red and less bare; her principal point being the drooping comb falling from one side to the other, as in the case of the Spanish. She is a good layer, giving fine eggs, sits well, and is an excellent mother. Like the Campine breed, she is lively and alert, and likes to wander about the fields and woods in search of food. Breeders esteem this race as much for its productiveness as for the fineness of its flesh. There are several varieties, the most remarkable being the blue, the black, the white, and the gray."

The blue or azure Caux fowl was at one time common, and more than one of the Continental breeds seem naturally to lend themselves to this color and to a kind of blue dun; but all the La Bresse that I have seen in England have been "speckled," either with black, or brown and white. As far as I can learn, the breed is far more worthy of notice and acceptance than many of the coarse-fleshed, big-boned, over-balanced mongrel novelties for which there is now a depraved craving.

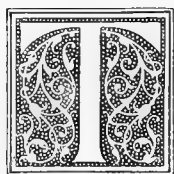


From a photograph

INDIAN GAME COCK "PRINCE
IMPERIAL"

First at Pan-American Exposition. Bred and
owned by J. Y. Bicknell, New York

THE SULTAN *



THE first Sultans that came to the United States, I secured very unexpectedly. One day in 1877 I received a letter from a lady in New York saying that she had recently returned from Europe, and that her husband had just died. While abroad he had secured, with great difficulty and at a high price, some Sultan fowls. They were to her a constant reminder of the trials her husband had experienced, but she wanted them placed in good hands, and had shipped them to me, knowing I was a poultryman. The Sultans were remarkably fine specimens, heavier than the Polish breeds. The plumage was snowy white. The two cocks were stylish, broad-breasted and broad-backed. They had large, globular crests, composed of short, broad feathers, and the hens had the same. The tails were large; the legs and the whole of the toes were heavily feathered and they all had prominent hock-feathering. The hens proved to be good layers of large, white eggs, and the eggs were very fertile. They were the tamest and most contented birds I ever owned. In fact, I used to show them to visitors as my singers, because they were almost constantly singing that song of contentment that every fancier enjoys hearing. Unfortunately, a big fire destroyed the records I had preserved about their egg-laying, to whom I had sold birds, etc.

This very beautiful and interesting breed was imported from Turkey by Miss Elizabeth Watts, who wrote on domestic poultry under the *nom de plume* of "Anster Bonn." Her description is: "They were sent to us from a friend living at Constantinople, in January, 1854. We had sent him some Cochon China fowls, and in return he said that when his son came to England he would present us with some Turkey fowls. They arrived in a vessel manned by Turks. The voyage had been long, the sea rough, and between the rolling and the dirt the fowls were in a deplorable state.

"It was thought doubtful if a stock could be reared from these, and

*Sultans were admitted to the American Standard of Perfection some years ago. This chapter has been partly rewritten and revised by George O. Brown, of Maryland, who came in possession of the first Sultans brought to this country.—EDITOR.

we therefore applied for more, but our friend informed us that they were very difficult to obtain even in Constantinople, and though he had tried in other parts of Turkey he had not as yet been successful. They were called Serai-Täook—Serai being the name of the Sultan's palace, and Täook the Turkish for fowl—so we named them fowls of the Sultan, Sultan's fowls, or briefly 'Sultans.'

"They are about the size of our Polish breed, white in color, full tailed, with compact, rounded top-knot; the comb consists of two points: they are muffed, the wattles small, the hackle full and flowing; vulture (falcon) hocked, five-toed, and charming in appearance. It is to be hoped that a fresh importation may yet arrive, though it is doubtful."

Mr. Weir continues: "This wish was not granted to Miss Elizabeth Watts, though some few have since been secured, but whether or not from Turkey direct I have been unable to ascertain. Having seen the imported birds, I can testify to the accuracy of Miss Watts' description. She gave me the privilege of handling the new fowls. They were exceedingly well-shaped and full-breasted, 'trim made,' short in thigh and legs, while the shanks were of medium length and well clothed to the toes with feathers, which were much longer about the outside of the feet. The weight of the cock was more than six pounds, the hen five pounds. They were quick, bright, lively birds, fonder of insects and grain than of grass or vegetables. On a lawn they presented a very beautiful appearance, and in many respects far surpassed breeds of a higher reputation. They differed from the Polish in one noticeable point. The crest, top-knot, or cop, of the cock was much more globular, and the feathers of which it is composed not so long and narrow, but fuller and more closely compact.

"Since 1854, the Sultans have been 'manipulated' and 'fancier improved' by crossing with the White Polish, which has produced a heavier and decidedly less charming style of bird. The late Mr. Beldon had some good ones, but they lacked the refinement and elegance of Miss Elizabeth Watts' imported 'beauties,' as she was wont to call them.

"Among the show fanciers who have kept the breed pure is Mrs. Harriett Christy, of Falconers, Edenbridge, Kent, who is also one of the most successful exhibitors. I am indebted to her for the following facts concerning this remarkable breed:

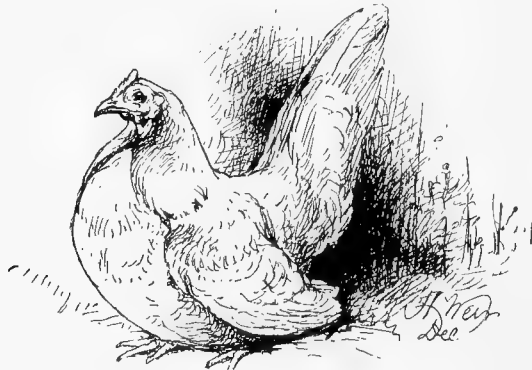
"I have kept Sultans more than twenty years. My only fear is that—owing to the difficulty of getting a fresh strain, and the numbers who are

crossing with the White Polish—the distinct and true breed of Sultan will soon be lost, unless we can procure some from abroad. It is a delicate but not expensive breed to keep. They lay during the summer months large white eggs, are non-sitters, and very good table fowls, the flesh being white and delicate. They are healthy, and do well either in confinement (if kept clean) or on a large range. On the latter they will almost keep themselves, being small eaters, and fattening quickly. They will wander to a distance if allowed, but being quite domesticated will generally find their way back at night. Naturally they are rather nervous birds, but with kind treatment become very tame. Mine will perch on my hand or arm at any time.

“The eggs usually hatch well, and the chickens grow and feather very fast till about six to eight weeks old. At that time they require great care, good feeding, and warm housing, as many are lost by fits or some wasting disease. If they get over the seventh or eighth week, with common care none are lost. They do not arrive at perfection until the second year, but after that they are very hardy, and some live to a good age. They lay pretty regularly from March till early in September.’

“In breeding Sultans, ‘character’ is the first point to be maintained, and this comprehends style, carriage, the form of the top-knot, beard and ruff, the shape and feathering, the clothing of the shanks and the general elegance. In all these it is best to match those that have too much of one point of excellence to those that have too little, and these with preponderating other qualities. Two perfect birds seldom breed their like.”

The American requirements call for leg and toe feathers in Sultans. A cross with Polish would simply result in a cross, which would not be recognized as anything else.



THE FRIZZLED FOWL *



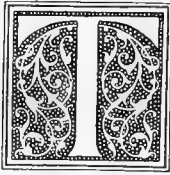
S far back as 1678, Ray, in his translation of Willoughby, treats of this peculiar and curious breed as a distinct one. He says: "Besides those set forth by Aldrovandus, we have often seen another kind of hen, called in English the Frisland hen, not (as I suppose) because it was first brought out of Frisland, but because the feathers of the body are curled or frised, by which epithet I believe this bird was at first called, the word afterward by the mistake of the vulgar corrupted into Frisland of the like sound. For, knowing this to be an outlandish hen, they thought it could not be more fully denominated than from its country, and thereupon imagined it to be called a Frisland hen instead of a Frised hen." Here it would be well to point to the fact that at this time it must have been by no means uncommon, as "he had often seen it, and ourselves have also at Middleton." The translation continues: "I suppose this to be the same breed which Aldrovandus hath put in the chapter of 'Monstrous Hens' in the last place, whose figure, he saith, was sent him by Pompilius Tagliaferus, of Parma, with this description: 'I would have you understand that there are two things especially found in this cock worthy of admiration. The first and chief is, that the feathers of its wings have a contrary situation to those of other birds, for that side, which in others is naturally undermost or inmost, in this is turned outward, that the whole of the wing seems to be inverted: the other is, that the feathers of the neck are reflected toward the head like a crest or ruff, which way the tail also turns up.'" From this description it may be gathered that the birds described were without top-knots, but that the feathers on the neck turned upward in such way as to resemble a crest.

Again, it is mentioned in "The Treatise" of 1810, page 174, as "The Frizzled Fowl" (*Phasianus crispus*, Latham). This breed, more singular than agreeable to the eye, has all its feathers turned upward, and in a manner frizzled. It is of all sorts of colors: white, black, silvery, golden, slate, etc.

"The Frizzled Fowl is found in Java, Japan, and in Southern Asia. It dreads the cold, and the chickens seldom hold out against our climate."

* Admitted to the American Standard of Perfection.—EDITOR.

THE RUMPLESS FOWL, OR WALLIKIKI *



HIS breed has been known for many centuries, and has been bred in many varieties and forms. It is pictured by Aldrovandi, and from him by Willoughby, in each case with a single cup comb. In modern times it has been represented at most of the large poultry shows in England and on the Continent. The breed is found in the interior of Africa, domesticated by the natives as well as by the Boers. I am informed that the latter cut away the hinder feathering, with the idea that hawks and falcons will not attack it when so disfigured.

In Belgium it is called the Walloon, and it is not uncommon in the country about Seize. It has been known in the Walloon country from time immemorial, and there it is said to have been originally imported from Ceylon, on which island large flocks of at least an analogous variety are said to exist. It is of no particular use either for egg-production or for the table, although some that I have seen and handled have been remarkably plump and meaty. Many have only a single comb; others, a strawberry or knob; others, a semi-rose; some, sprigged rose, and some cupped, with lark-crests. They vary much in color and size, the largest weighing at the outside eight to nine pounds, and the smallest no more than a Bantam. I have never kept any, but am told that they are hardy, and the chickens easily reared. It is reasonable to conclude that they are fancied more for curiosity than for profit, their odd appearance when plucked creating an unfavorable impression in a market fowl.

Doctor Bennett, in his "Poultry Book," Boston, 1854, remarks: "This fowl is erroneously supposed to be a native of Japan, and by an equally common error is frequently called the Friesland fowl," etc.

Doctor Bennett is wrong, as the breed decidedly comes from Japan, one of the places in which it is admired and fancied, not only the larger variety, but a distinct breed of Bantam. Both have been imported. The European differs from the Japanese in being mostly crested or adorned with a top-knot, in which the true Japanese is entirely deficient, the cock

* Admitted to the American Standard of Perfection.—EDITOR.

especially having a somewhat large comb and wattles. The ear-lobe is red, while that of the European is small and of a greenish white.

Of the larger breed, those mostly seen in England have either lark crests or full-sized top-knots. S. W. Cole, writing on the breed in Doctor Bennett's book, says: "The Frizzled has its feathers pointing forward so that it cannot run among the grain; and this is a peculiar advantage." Further, it is stated "that Dr. Eben Wright, of Massachusetts, the distinguished importer of fowls, has many of this variety." Although it was denied that Japan was at least one of the countries from which they were derived, Doctor Wright did not state whence his birds were imported. The origin of those in America, in 1853, was apparently unknown.

They are the form and shape of our common "barn-door" fowls, and are plump and round in breast. They are delicate to rear, impatient of cold or heat, and not good layers. The eggs are white and of a medium size. They have been frequently exhibited during the last fifty years, in the forms of plain-heads, top-knots, and lark-crested, and in almost every variety of color and spangling. I have been informed by a friend that they are not uncommon in Africa, and are in some places kept by the natives.



FRIZZLED HEN

Drawn by Harrison Weir

TURKEY-NECKS, NAKED-NECKS, GILLIKINS, NUDES



HIS breed of fowls is said to have been originally an importation from Japan, and it certainly bears a resemblance to some of the drawings of poultry oddities occasionally seen on Japanese-made painted-paper fans. It is a quaint, original and peculiar bird, but opinions vary as to its beauty, for I have heard it called wonderfully handsome and downright ugly. For my own part, if well-proportioned, I do not consider them ugly. They certainly are an achievement in the way of misdirected art, and though unattractive are at least interesting.

They are not new, being mentioned in "The Treatise," of 1810, thus: "The Fowl Without Feathers.—With the exception of a few feathers on the wings, one can hardly find twenty more on all the rest of the body of this fowl. It is not certain whether it be a particular breed. Some say it reproduces, and that every individual arising therefrom, without any admixture of other breeds, is equally naked. Others pretend that this nudity is artificial." The breed, whatever its origin, is reproductive and distinct. Of late it has been the fancy of some; and it is not kept entirely as a curiosity, since, despite a tendency to coarseness, it is found to be a table fowl superior to others of more pretensions. It is neither a bad nor a good layer, but about the average. The eggs are of medium size and oval. The comb and wattles of the cock are large; the former mostly single or cupped well and deeply spiked or serrated; the latter large, long and pendulous. These, as well as the face, throat and much of the naked parts of the body, are a brilliant red. The feathers vary much in color, being in many slate- or dove-colored, splashed with white and barred with a darker tint. The black are said to be very handsome, the red and black giving a rich appearance. Both in beauty and utility they are so far surpassed by others as to be rendered scarcely desirable.

THE CAMPINE AND BRACKEL



THE Campine and the Brackel fowls are considered to be one family. They are the great egg-producers of Belgium, being to that country what the Leghorns are to us. The Campines are a single-comb fowl, resembling in color of plumage the early day Silver- and Golden-Penciled Hamburgs. They are irregularly marked, with wider bars than are permissible at the present time upon our Hamburgs, and of late they have been bred for exhibition in England. This has to a very great extent robbed them of their personnel, changed them from the plump, full-breasted, egg-producing and desirable market fowl into one having the modern Hamburg shape, color and markings, with the single comb.

The Campines have the desirable breast and body for good table poultry, and it is for this purpose and for the production of a large number of white-shelled eggs that they are bred in Belgium. For other purposes it is better to select the Hamburg, pure as we now have it, than to attempt to make show fowl of the Campine through a process of mating Campine males with Penciled Hamburg females and selecting the best single-comb specimens for exhibition. The desirable qualities of the Campine are thus lost, and we have, instead, a single-comb half-breed of little value for any purpose.

The Brackels are a variety of the Campines that are supposed to have gained greater size through having been continually reared in a warmer climate. Writers differ in describing them. Some say the Campines have single combs and the Brackels double combs, while others state the reverse, and this would lead one to conclude that they are the same breed. The rose and the single comb are found in each, and the Brackels are naturally larger in size than the Campines; but otherwise they are alike in form, color and markings.

THE GUELDERS



ANOTHER Belgian fowl, known to us as the Breda, was formerly bred to some little extent in the United States. They resemble the early-day La Flèche more than any other fowl, having a head of the same shape and style as the La Flèche of early days, with no comb, but a flat, or depressed, red formation just behind the beak, and a small crest like some of the early day La Flèche. This fowl has entirely disappeared from public notice in America, and we understand that but few of them are seen in Belgium at the present time. They have been known as Guelders, Bredas, and Guelderands. The variety colors are black, white and Dominique colored (called cuckoo color). These are fully described and illustrated in "The People's Practical Poultry Book" (1871), and there is little doubt that they, as well as the Coucou de Malines, are closely related to the early day Cuckoo Cochins.



from a photograph

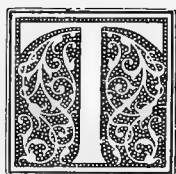
INDIAN GAME HEN "COLUMBIA"

First at Pan-American and first at New York, 1902
Bred and owned by J. Y. Bicknell, New York



COUCOU DE MALINES COCK
Imported by Wallace P. Willett, of New Jersey, in 1904

COUCOU DE MALINES



THIS is the favorite market poultry of Belgium. They are large in size, ranging from five to ten, even more, pounds each, according to age and sex. They might be called a Cuckoo Cochin, or a feathered-legged Plymouth Rock. Their shape is much like the Asiatics, and their color like our Barred Plymouth Rocks. They have some feathers on shanks and toes. The shanks and toes are white or pinkish white; skin white. They are fashioned more like the Cochin than the Plymouth Rock, having short, heavy thighs and shanks and full, round bodies. Of these there are two varieties, the one Dominique color and the other pure white. They lay tinted eggs of moderate size, compared with their own size. These fowls do well in all climates and are classed as general purpose fowls of excellent quality for the table.

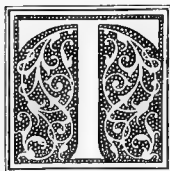
In a recent issue of *The Orpington*, Wallace P. Willett, of New Jersey, Secretary of the American Orpington Club, has the following to say about the Coucou de Malines:

"The Belgium peasants grow a market fowl to thirteen pounds. They call it the Coucou de Malines. I noticed that there were one hundred and thirteen birds of this variety exhibited at the recent Brussels show. My natural curiosity to see this bird led me to write to friends in Antwerp to procure a trio of them for me from the first prize winners at that show.

My curiosity was partially satisfied by receiving in October a cock, a hen and a pullet of 1901 hatch, all covered with blue ribbons. The cock weighs ten pounds, the hen nine pounds, and the pullet seven pounds. When in condition I can easily put on two pounds more. On arrival, just to show what they could do in eggs, the pullet hen gave us a two-and-one-half-ounce egg. The hen the next day tried to do as well, but fell one-quarter ounce short in weight. The three are inseparable; where one goes they all go. The cock and hen went on the nest with the pullet, and the cock and pullet went on the nest with the hen.

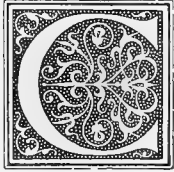
"In color they are the old Plymouth Rock or English Dominique, with the Langshan type and feathered legs. Thus much of the enthusiasm of curiosity which has still to be satisfied by the later action of this trio of inseparables. They will never interfere with the Orpington's progress, though when crossed with Barred Rocks might produce some remarkable results in that breed. Put a feathering on the legs of the Barred Plymouth Rocks of 1889 and you have a good idea of their appearance. They completed laying twelve eggs on the twelfth day of arrival. The twelve eggs weighed exactly twenty-eight ounces, an average of two and one-third ounces each. The eggs are of a dark tinted color."

THE BRUGES



THE Bruges fowl might be called the Malay Game of Belgium, as it resembles the Malay in shape and color, though somewhat smaller in size. They have single combs, dark or lead-colored shanks, and are quite sprightly, like our pet Games. They are not prolific egg-producers, but hardy and easily reared from chicks to maturity.

LAKENVELDERS *



CONSIDERING the fact that there are only a few breeders in America who own pens of Lakenvelders, and that there has been scarcely any attempt to advertise them, the interest which this breed has awakened is something phenomenal. Every breeder who had eggs for sale has been completely "snowed under" with orders, and many have found it necessary to refuse more than they accepted because the demand vastly exceeded the supply. Surely, Lakenvelders are coming to the front. The reason for this spontaneous boom of the "Shadows on a Sheet" is not far to seek. They are striking and beautiful, symmetrical in form and extremely active and graceful in movement. They possess all the attractive and valuable qualities of the Leghorns, together with a wonderful color scheme in white and black which cannot fail to arrest the attention of all who see them.

Imagine a beautifully formed, stately White Leghorn or Hamburg cock with head, neck, rump hackles and tail of the most intense jet black, and you have a fair picture of the Lakenvelder. The females have white bodies with black tail and neck. They are the most active foragers of any birds I have ever seen, and their power of flight is equal to that of the Pheasant. As layers they rank with Hamburgs or Leghorns, and their eggs are of porcelain whiteness and as large as those of the White Leghorn. In table qualities the Lakenvelders are as good and no better than the Leghorns, and their chicks are reared in the same way as those of the Mediterranean breeds. Like Leghorn chicks, the young Lakenvelders show a tendency to grow wing feathers early and sometimes to excess, but after five or six weeks this ceases and the birds become compact and exceptionally active.

My own experience with five pens (in all, forty birds) has been most satisfactory. The birds are healthy, vigorous, and constant layers. My flock has averaged more than 75 per cent. daily egg-laying since their

* This brief description of the Lakenvelder was written for *American Poultry Advocate* by Dr. A. H. Phelps, President of the Lakenvelder Club of America. and is reproduced here by permission.—EDITOR.

importation in February last. Lakenvelders are, like Hamburgs and Leghorns, practically non-sitters, and I believe they are superior to either of these breeds as utility fowls. Where they can have wide range, they surpass all other breeds in egg-production, because their great foraging abilities render them well-nigh self-supporting throughout the months of the year in which forage is obtainable. Their extreme activity, powerful flight and wariness protect them from the depredations of birds and beasts of prey in localities where many other breeds would be exterminated.

Lakenvelders are primarily Dutch birds, as their name implies, and they were introduced from Holland and Belgium into England and Germany. The German Lakenvelders are slightly different in coloring from the original Dutch or standard English type, since there has been a tendency toward white rump hackle feathers, with only tail and neck hackles black. This type is, in my opinion, far less beautiful, and certainly more difficult of attainment, than the true original Dutch type, which constitutes the standard of English breeders.

The official standard of the English Lakenvelder Club is here reproduced by permission:

LAKENVELDER STANDARD

Cock.—Comb single, erect, evenly serrated, following the contour of the head, moderate size; lobes white, almond-shaped; body color and wings white; neck hackle full, black (special attention to the feathers about the head); saddle hackle black, free from stripes or spots; tail black full; sickle feathers long, and carried at an angle of 45 degrees.

Hen.—Comb, upright, single, small, evenly serrated; neck hackle black, solid if possible; body and wings white; tail solid black and full.

Cock and Hen.—Size as large as possible; eyes, red or bright chestnut; legs, blue slate; shanks free from feathers, medium length; beak, dark horn; body long, wide in front, tapering to the tail; general characteristics, sprightly and active.

Points.—Color, 45; size, 20; head, 10; carriage, 10; condition, 10; legs and feet, 5. Total, 100.

Doctor Phelps says the above standard appeared in the *Feathered World*, over the name of Percy W. Thornilery, the president of the Lakenvelder Club of Great Britain. Lakenvelders have received more admiration from fanciers and judges than has been accorded to any other variety

of two-colored fowls introduced in recent years. This speaks volumes for their beauty, as the fancier is usually strongly prejudiced in favor of solid colors. One or two writers have spoken of them slightly as "misfits," but by the same rule a gentleman in evening dress with white vest would be a misfit. From my own experience I must say that I find Lakenvelders as easy to breed true to color as any variety of poultry I have ever owned, and I have had personal experience with over seventy different breeds. A considerable number of the pullets show more or less black in the plumage of the back, and are therefore considered off-color, but these same off-color females will breed the best cockerels and intensify the black in the neck and tail of future pullets. Colonel Sandbach writes me that, in Holland, belted cattle are called Lakenvelders, and it causes me to wonder whether these are also "misfits."



Photograph by A. W. Scott

LAKENVELDER COCK

Owned by Dr. A. H. Phelps, New York

JAPANESE *



ANY varieties of fowls in Japan are at present unknown to the European fancier. This is demonstrated by the numerous and very accurate drawings and models made by the natives, and also by the observations of travelers in that country. A friend of Mr. Weir's, Mr. Joyner, who resided near Yokohama many years ago, informed him of a middle-sized breed, in which, by constant selection, the comb and wattles of both the cocks and hens had become so large that the wattles touched the ground when the birds were in a natural walking position. Not infrequently they trod on them, if hurried, and threw themselves down with considerable force. Others of the same class were almost devoid of feathering, the whole head, neck, and most of the body, except the wings and tail, being bare and red. Both these breeds, he said, were rare, and from his description Mr. Weir was inclined to think that they resembled those that go in the English poultry yards under the name of "Turkey-necks," "Naked-necks," or "Gillikins." Then there are "short tails" and "hen-tailed" varieties, some of which are white and very handsome. I have made a drawing, from a beautiful and highly finished *cloisonné* picture by a very celebrated Japanese artist, depicted in the usual instructive way—the cock, the hen, and the newly hatched chick. The last was a sooty color, which no doubt would change to white on feathering. The old birds had golden-yellow beaks and shanks. Besides the numerous forms of Japanese Game fowls and Bantams, there are the lovely white long-tailed fowls of Yokohama, known here by that name only; and the colored variety, still more wonderful as to length of feather, known as the Phoenix. As far as my observation goes, the rose, or round, full, many-spiked comb does not obtain favor with the Japanese fanciers of natural oddities—large and small, ugly and graceful. Nor does the European taste for long-thighed, long-legged and long-shanked monstrosities prevail among this truly artistic people, who

* Specimens of these rare and beautiful fowls are not often seen in the United States. Mr. Weir's account of them is here reproduced practically as he wrote it.—EDITOR.

know by instinct what is not only agreeable to the eye by reason of beauty, but harmonious in form.

WHITE YOKOHAMA FOWL

THIS is smaller than our English Game breed, more slightly made, and very alert, being quick and desperate, both in attack and defense. Though somewhat slight in build, it is of good girth. The head is long; the beak slightly curved; the eye large and full; the comb middle-sized to small, single and serrated even to the lobe at the back extremity; the wattles small and somewhat round, though rather pendulous; the wings are carried close to the body, which is almost horizontal in most cases; the great and lesser tail coverts of considerable length, in some specimens exceeding twelve to fourteen feet, while the saddle feathers are long in proportion. The length, combined with the pure whiteness of the feathers, gives a most refined and beautiful appearance. A cock, seen on a fresh green grass plot, with its tail plumage lying in graceful curves, and his hens about him, is indeed a marvel of perfection in this class of poultry breeding. The hens resemble in form and character our English Game, but are more slender, and have an Oriental fineness in curvature of line throughout. The thighs and legs are plump and of medium length; so are the shanks, which in both sexes are, like the beaks, of a lively golden yellow. There is a black variety in Japan, equally elegant in form and feather, but as yet none have been imported.

They are very indifferent layers, seldom exceeding fourteen to fifteen eggs before becoming broody. Occasionally some of my pullets laid as many as twenty, and one even thirty, but this was very unusual. The time of incubation is rarely more than twenty days, and the young are lively and quick in insect-hunting. The chicks are rather tender: if the weather is damp and cold they must be kept in a warm, dry place. They feather well and early, but the "shooting" of the tail-feathers is rather a critical operation, so at that time they require a little chopped liver or beef in their food, and an egg or two. Afterward they are not more difficult to rear than English Games.

In color they are mostly white, or a delicate, very light fawn, though black and mottled ones are not unknown in Japan; but none of these have been imported, as far as I am aware. In some parts of Saxony and Germany

they are raised in great perfection, and clubs have been instituted for their production and possible improvement.

They interbreed freely with other varieties of fowls, and some of these crosses are very beautiful. With the five-toed "old Kents" they are a complete success, the cocks produced being particularly handsome, with tails and tail coverts large, long and elegant. Nearly all the broods had white shanks and five toes, while the feathering was rich in coloring. The bodies short, plump, and meaty, were a desirable acquisition. Crossed with the Minorcas, they lost in beauty both of carriage and tail.

There is little doubt that a Yokohama cock crossed with Polish or Hamburg hens would produce something novel, beautiful, and useful; and even the Asiatics might be tried with advantage, such as the old variety of Shanghai or Cochin, with featherless shanks, of which numbers were imported in "the forties." A large-tailed Langshan hen, with a white or black Japanese cock, would most likely lead the fancy in a new direction, both as regards beauty and utility, and very likely the eggs would be fine in color. Those of the Yokohama are tinted, and some are slightly sooty in color.

Perhaps the old English Game, with its fine form and almost endless variety of coloring, would lend itself more completely than any other to a Japanese cross. The birds are so much alike in general character and in courage, it is almost certain that something elegant, refined and useful, as well as highly ornamental, would be the outcome of judicious mating. A white Yokohama cock with Blue Game hens, or Silver Grays, or Black-breasted Reds, or Spangles, or Blue Duns, would all be worth a trial. A cross with the Azeel would make a handsome and good table fowl, but the laying would not be likely to be improved.

It has often been to me a matter of regret that Japanese fowls should have been overlooked in the imparting of new form, carriage, habits and elegance to some of our European breeds. The coarse Asiatics, Shanghais or Brahmas and the finer Langshans have been almost universally preferred.

THE PHŒNIX FOWL

WHY it is so called is as much a mystery as the nomenclature of many of our fowls. There is no more reason why the Phœnix should so be called than that the Shanghai should be named a Cochin China fowl. The Phœnix

fowl is another of the wonderful productions of the untiring, persistent, well-directed patience of the Japanese fancier, who must have taken ages to bring it to its present state. It much resembles the Yokohama in general outline, character and carriage, but the sickle or end feathers are wonderfully elongated, far surpassing this or any other breed. How the length has been obtained is a matter of controversy, but the fact remains. The sickle feathers in some specimens have been known to reach the extraordinary length of twenty-six feet. The Japanese poulterer, knowing that the feathers grow from the base and not the end or point, watches the tail development, and as soon as the sickle feathers are long enough he bends them gently into a circle, which is kept in form by silk ties or paper, and thus, during growth, protected from injury. At times the bird is put into a narrow, upright cage, with a perch, which is central and suspended at the top, the feathers being untied and allowed to hang down to their fullest extent. It is also permitted to walk on ground that is perfectly smooth, soft, and free from grit; but there is continual anxiety to prevent the feathers being injured, torn or broken. It is said that the fowls do not arrive at any degree of perfection under the age of four or five years, at which time they may be regarded more as a triumph of art over nature than as actually beautiful. The colors vary, being mostly black or a starling-breasted silver gray, though yellow often predominates instead of white, and some are slightly spangled or ticked with red. The hens much resemble the Yokohama, though the sickle feathers are somewhat longer, and the lines of body and limbs are not quite so graceful. Though not good layers, the eggs are less fertile than is generally the case with birds that lay a restricted number. Except it be for their peculiar development of feathering and their unusually quaint appearance, they are scarcely a desirable acquisition, as they require adept and continual attention. The chickens are said to be delicate and difficult to rear, particularly at the time of feathering.

No doubt in a country like Japan there are a number of fowls entirely different from any of our European varieties, and from the Asiatics hitherto known. Now that the country is becoming commercial, there is a probability that in course of time something more varied yet may be discovered and imported. As far as my own observation goes, I have not seen, in paintings, drawings or alive, any Japanese breed that has a top-knot, either large or small.

Although the length of tail is to the Japanese a great attraction, they do not slavishly confine their energies to that particular form of gracefulness. Some of the larger varieties have short or hen tails, while the fighting Game fowl seems to have been bred for combat, its whole action being quick, alert, and impetuous to a fault.

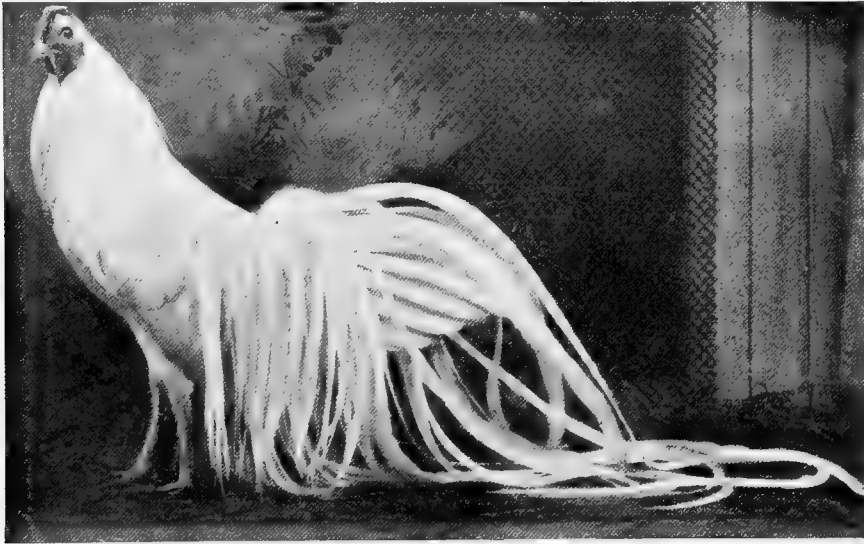
Frank Rice, of Sudbury, sent Mr. Weir an account of his experiences with these fowls, his stock being mostly bred in England.

He says: "It is my intention to give a few of the principal features which make this charming variety of fowls so exceptionally attractive. Apart from their proportional elegance, the tail is totally different from that of any other variety of poultry bred in this country. The sickle feathers of the cockerel grow about two feet long the first year, and after each moult they increase in length, until they extend about five feet, which is as long as we generally expect to grow them, although in Japan, their native country, they reach to as much as, and even exceed, fifteen feet. My intention is to deal with the breed only as it can be produced in England, not as a foreign or tropical bird.

"The peculiar grace and size of the tail is doubtless one of if not the chief attraction, adorned though they be with such a grand array of feathers. The male bird comports himself with graceful ease, being so evenly balanced. He does not awkwardly drop the long and pendulous adornment, but carries it so as to trail with an attractive undulation an individual curve difficult to describe, which may be more readily observed in the illustration. The primary and other feathers of the tail should be broad and strong, except the side hangers, which are soft, flowing and of great abundance. The wings should be tight and close; the head small and neat, furnished with a delicately formed pea-comb, a special trait of the pure Yokohama fowl. The neck must have plenty of long hackle feathers; the legs, above medium length, and of a bluish willow color, with four toes. The Yokohama should be long-made, have long wings, long body, long neck, and long tail.

"The sickle feathers of the male bird are utilized for officers' plumes; the lesser and more decorative are worn by ladies. In the colored variety they are of a rich and lustrous black. Though the whites are very ornamental, they never grow so much tail as the other varieties. The hens resemble the cocks in all points, except that of the sickle feathers, although mostly they carry a big tail.

"I find the best months to hatch the eggs and rear the chickens are March, April, May and June, as very late birds never grow such long tails, one of the principal characteristics of the breed. They are truly wonderful layers, the weather having little or no effect. Mine have laid continuously through the winter. I have a pen of buff Orpingtons, which were not nearly such good laying-fowls as my Yokohamas. They are rich in color and gay in appearance, although somewhat small for market purposes. We get a large egg-average from each hen per year. They are good sitters and mothers, but do not become broody more than twice in the



PRIZE YOKOHAMA COCK
Owned by Herr Hugo de Roi, Brunswick

From a photograph

year. For table or culinary purposes they make a nice fleshy fowl, with a good breast, white in color. They are very active, and their eggs prove to be very fertile. The chickens hatch strong and are easy to rear.

"The pure breed is exceedingly rare, but perhaps it would be less so if its good qualities were better known. Irrespective of their beauty they fully deserve to become very popular, as they are not only ornamental, but hardy. They will thrive in a wild state, roosting in trees, somewhat after the manner of the common pheasant, breeding in a natural way, or in confinement, penned up like ordinary fowls. It may therefore be said that Phoenix Yokohamas do well under any conditions, and keep their tails very

clean. I have sent breeding-pens of them to all parts of the world, chiefly on account of the attraction they invariably possess in a greater or lesser degree."

With most of Mr. Rice's remarks Mr. Weir agrees, though he never found the Japanese to be good layers; on the contrary, he found them not quite up to the average.

The chickens of the Japanese are small, but very lively; the head and neck are large in comparison to the body. When very young, they are tender and difficult to rear, but more hardy at six weeks old. There can be no question as to their beauty. They are an adornment; as a flower is to a garden, so are they among poultry.

A photograph of the world-celebrated fowl of Herr Hugo de Roi is reproduced herewith through the kindness of F. Broomhead.



From a photograph by Thomas Gates, Sudbury

COLORED PHENIX YOKOHAMA COCKEREL

Eight months old. Bred and owned by Mr. Frank Rice

BANTAMS IN GENERAL *

THOMAS F. MCGREW, NEW YORK



WRITING of Bantams, Harrison Weir says: "There seems to be some confusion of nomenclature with these beautiful and delightfully interesting birds. The smaller varieties of poultry ought, in my opinion, to be divided into at least two families or divisions, one to consist entirely of small breeds of which there are no large representatives, and the other of 'pigmies,' which are but dwarfs of larger breeds. The Pekin is the pigmy Shanghai, the Black Rose-comb Bantam of to-day is the pigmy of the Black Hamburg. The Game fowls, the Polish, Malay and Azeel, are all simply pigmies, and not distinct breeds like the true Bantams which have no large-sized representatives. Even as far back as the time of Columella, nearly two thousand years ago, dwarf fowls were kept, and they are noted by him as not profitable.

"When the first were imported into England is a matter of controversy, also whether they came direct from Java, and the city or town of Bantam, or were brought by the Dutch into Holland, and came thence to England. Certain it is that the pert, feather-booted, falcon-hocked, tiny though valorous birds were named Bantams from the place whence they were shipped. They are to this day a distinct race, like some still to be found in China, Japan, India, and elsewhere, and are not pigmies of any variety.

"Of the original Bantam, the bird from which the name has been transmitted, few if any of the true breed now exist, though it was common in our farmyards fifty years ago. The cock was most pugnacious, rivaling the old English Game cock in this respect, neither the size, form, nor weight of the opponent being any deterrent to his vigorous attack. Nothing daunted the courage or the impetuosity of the assailant, no matter how

*This chapter on Bantams has been entirely rewritten by Mr. McGrew, who has for many years given this highly interesting group of fowls most careful study. Much valuable information is here printed for the first time. Only such parts of Mr. Weir's article have been quoted as would be of interest to American fanciers.—EDITOR.

he was over-matched and beaten down. Again and again he would rise to renew the contest, never giving in as long as he had the power to move. Unable to stand, he would lie and peck until, from sheer exhaustion, the fight ended in death."

Mr. Weir's description of these Bantams tallies to a nicety with what were formerly known in America as "Crow Chickens," except in one particular. He describes the Bantam cock as being "a Black-breasted Red,



Photograph by C. F. Ross

GOLDEN DUCKWING BANTAM COCK

First at Madison Square Garden, 1904. Bred and owned by Oak & McNeal, Canada

rich in color, heavily booted, with falcon hocks, full and round breasted; short and thick in neck and body; upright in carriage, haughty and defiant; tail large and full but rather short in sickle, almost, if not quite, touching the back of the neck or head, which last was small; eyes large, round and full, of a dark brownish black; comb single, serrated, upright and medium in size; the wattles round and full size; deaf ear, rather small and red; thighs and legs short; shanks short; beak short, in color a greenish

brown, as were the shanks, feet and toe-nails. The hen was partridge brown in color, short in neck; short and plump in body, with a full breast; tail large and carried very upright, almost touching the neck, which had rather a backward curve, making a graceful line throughout; thighs, legs and shanks short, booted, well feathered, with falcon hocks, so incurved

that the points would touch under the belly; comb and wattle, small, and very bright red; beak, short, and of the same brownish-green color as the shanks; eye, large, round, and full, and the same deep brown as the cock's; the smallest hen weighing but fourteen ounces, the majority considerably more. The Booted Bantams are the only true representative of the old true Bantam of more than a century ago."

This description shows that the early Booted Bantam had the black Red-Game color. Our old-time Crow Chicken had the same coloring, but no feathers on shanks or toes. This variety, together with the Nankin and the Rose-comb Bantams, were the early day Bantams, known to the fanciers of the world. The true Bantams, as we now have them, are the result of matings made to reduce size and maintain form and color.

Mr. Weir describes the following early day Bantams which, with few exceptions, are unknown to us:

"Another variety of Bantams, called Nankin, were very neat, compact and beautiful. They were clean in the shanks, and in form, character and general appearance much resembled the old English Game fowls of that period, though rounder in body and fuller breasted. They had a lively carriage, and an odd, vain and conceited air in all their actions, but possessed indomitable courage. Though very small, they never hesitated to attack fowls four or five times their weight, and by their rapid movements bewildered their larger antagonists, whom they would sometimes tire out so that they fled. This variety came originally from Java and some parts of India. In color they were a clear, pure, rather lemon-colored buff, the hackles of both cocks and hens being a canary yellow; the large feathers of the tail were black, as were the inner webs of the primary and secondary feathers of the wings; the beak and shanks were a soft azure blue, with white toe-nails; the eyes were large, full, and dark hazel. They possessed the true rose-comb, which was small, round, full of spikes, and without that peak at the back which is usually found in all breeds excepting the true Redcaps. These combs, terminating in a long peak, were then called rosebuds, and the others designated 'full roses.' This beautiful variety is seen now only occasionally at shows, and the color is generally redder than the soft, harmonious yellow of the old style. Three or four years ago I saw a cock and two hens, which were rather large, but fairly good in color. These were originally imported from India—I think from Bengal. They did not carry their tails so high as the old-time birds, nor were they so

struttingly vain and haughty in their mien. They also lacked the trim rotundity of body, and their combs, being single, detracted much from their beauty.

"Of the same form and character, style and shape, there were, and still are, many other colors, the Black-breasted Red, with his bright coral-red rose-comb, being a great favorite some fifty years ago; and so, too, were the black, the speckled, the white, and other colors. All had red deaf ears.

"A handsome Bantam cock, possessed of all the family properties in perfection, is one of the prettiest of domestic birds. He should have a rose-comb, a well-feathered tail, full hackles, a proud, lively carriage, and ought not to weigh more than a pound. The Nankin-colored and the black are the greatest favorites."

MODERN BANTAMS

THE Bantams of to-day rival the fowls they miniature in public favor. The Game, Cochin and Rose-comb Bantams are more prominent at our larger exhibitions than are those they imitate in form and color. The Bantam clubs are quite as active in their work as are those that foster larger breeds. Bantams of to-day stand upon an equal footing with other fowls in America and in popularity yield place to none. In quality they equal the best; in value they rank with others. They have been known to change hands at several hundred dollars per pen. No more are the fanciers of Bantams classed with children; nor are their pets called "banties."

The American Standard of Perfection recognizes eight varieties of Game Bantam: The Malay Bantam, seven breeds of variety Bantams and their sub-varieties; in all, twenty-five varieties, bred to standard demands. The requirements for excellence in these, when compared in the show-room, are fully as rigid, if not more so, than in the larger breeds they miniature. Superior excellence in Bantams is their real value. Mediocrity, or inferiority, with them means worthlessness. This is one of the causes that confines the successful breeding of Bantams to experts, who alone are able to produce the most desirable quality. While the Bantam is a lovely little fowl at all times, one that gives pleasure to the amateur, who may foster it from affection and for the eggs, it should be understood in advance that the production of the highest quality is only to be accomplished through the greatest care, resulting from experience and a study of the bird selected.

Of all varieties, the Game Bantam has long been the prime favorite. The Black Red Game Bantam, though the most generally kept, is seemingly but little understood. The tendency in life is to consider the best we have seen to be the best of its kind. The observance of this rule is naturally quite general among fanciers, with whom the "prize-winner" is the object-lesson of perfection. Ofttimes these idols are soon broken with the coming of their betters. One of the most difficult lessons to learn is how to bestow speedy recognition upon better than we have or have seen when it comes between us and the much-coveted prize awards. To be successful, we must be able to recognize true merit, to grasp its value quickly, and to apply the lesson learned from its presence to our own future benefit.

GAME BANTAMS

THE Game Bantam, as recognized in the American Standard, consists of eight varieties. Of these the Black-breasted Red is by far the most popular. The only other Bantam that approaches it in being generally kept is the Buff Cochin Bantam. Without question, there are more Cochin Bantams and Black-breasted Red Game Bantams than there are of any of the other breeds or varieties.

Several writers have several theories about the origin of the Game Bantams. The majority of fanciers, however, agree with Mr. Entwisle, who gives John Crossland, of England, the credit of having produced the first Game Bantams of quality. Mowbray, in his early writings, states that there has just been obtained a new variety of Bantams, extremely small and smooth-legged, as are the Game fowls. The records as early as 1850 described beautiful Game Bantams of very small size, weight considered, but no mention is made of their possible origin.

With Game Bantams, as with the large Game fowls, form, type and station are of the greatest importance. The Game type, as it is termed, is distinctively their own. No other fowl has the carriage of the Games; and what are known at present as the exhibition type of Game Bantams are quite different from any other style of fowl. They are tall, upright in carriage; the head rather long and narrow; very slim neck, especially at the front where it joins with the head; broad at the shoulders between the wing-butts; and body shaped like an egg, the larger end at the shoulders, tapering down to the tail. The best of the present day are so delicately

bred as scarcely to show any wattle, and very little comb. This may be caused by the continual "dubbing" of fowls.

One of the most attractive peculiarities of the Game fowl is that it should have very long shanks and thighs upon which the bird is placed in an upright position. The neck is long, slim and tapering, when it stands or is poised in an exhibition position. The eye should be almost directly over the hock joint. Specimens that have short legs, short, heavy necks and a non-erect carriage should be excluded from the Game classes entirely.

In a recent letter (October 12, 1904) James Glasgow, the well-known fancier and breeder of New Jersey, writes of Game Bantams as follows:

"Of the many varieties of Bantams, none appeals to the average fancier so much as the sprightly little fowl universally known as the Game Bantam. Being an exact counterpart of the large exhibition Game, it easily finds favor in the eyes of all Game fanciers. Take a 'dyed-in-the-wool' Game man and, no matter whether his ideal shape is placed before him in the form of a large Game or a diminutive Bantam, he admires it just the same. Many a fancier of the large Games has, from lack of accommodation, transferred his affection to the little fellows, and by scientific breeding has produced specimens that have had all the characteristics of the up-to-date Game fowl. The Black-breasted Reds have for years held their own in popular favor. Consequently more birds of that variety than of any other have been bred nearer to the ideal. The Golden and the Silver Duckwings are next in order. Their beautiful coloring, on the black body ground, forms a contrast that is very pleasing to the eye. The Red Pyles have many admirers. The chief difficulty in breeding them is to get a creamy white body and surface color entirely free from dark or smutty-colored features, which plainly show the infusion of Black Red blood at some time or another."

Then we have the Brown-breasted Reds and the Birchen Game Bantams, which to my mind are the most beautiful of all.

The only difference between the two varieties is in the coloring. The Brown Red males should have lemon-colored hackles, saddle and breast-lacing; and the females, lemon hackles and breast lacing, but both should be entirely free of coloring on the back and thighs.

The Birchens are the same, except that the coloring should be silvery white instead of lemon, as in the Brown Reds.

White Game Bantams have made remarkable strides in the past few

years. Some of the specimens exhibited at our leading shows have compared favorably with birds of the more popular varieties.

Blacks, strange to say, have not shown much improvement. The majority of birds exhibited look like poor Rose-comb Black Bantams with their combs cut off.

Space will not permit me to go into an exhaustive treatise on the breeding of Game Bantams, but a few remarks upon each variety will not be amiss. The fad for extremes in the matter of coloring has compelled fanciers to resort to what is generally termed double-mating systems, which enable them to produce males and females of the color that the Standard demands.

It is this double mating that has proved a stumbling-block to many an enthusiastic beginner.

In Black Reds it is absolutely necessary to have separate cockerel and pullet breeding-pens if a breeder wishes to produce an average number of birds of the correct color.

The male bird is considered the main factor in producing the proper color in both males and females.

For cockerel breeding, the male selected should be very sound in his black, rich, solid-colored diamonds, short bodied, and as near perfect in carriage as it is possible to get him. For pullet breeding, a darker-colored bird should be used. One very important item in this selection is to get a bird that has perfect black flights in the wings—one that is entirely free from rust in fluff.

Male birds that have red edging on their short-flight feathers, while suitable for cockerel breeding, are rank failures when mated up to produce exhibition colored females.



Photograph by C. F. Ross

BLACK-BREASTED RED-HEN BANTAM

First at Madison Square Garden, 1904. Bred and owned by Oak & McNeal, Canada

They are the cause of what is generally termed foxiness on wing and shoulders, a fault shown by many of the Black Red females of to-day.

A perfect-colored Black Red female is a scarce article nowadays, and the writer feels safe in saying that the best-colored birds that have been shown can trace their breeding to a yard where the double-mating system has been employed.

Just a word as to the qualities needed in the females that go to make up a cockerel-breeding pen. First as to shape:

Our experience has been that without perfectly shaped females it is impossible to breed high-class Game Bantams. In color they should be as rich as possible, the back showing a distinct lacing. Foxy color on the wing is to be desired rather than avoided, also plenty of reach and style, good heads and eyes; in fact, with the proper color get everything else that goes to make up an ideal specimen. Try to avoid mating two birds that have the same faults. Endeavor to see in the combination of male and female the making of a bird superior to his parents. If the stock is line bred and properly mated, there is no reason why an average number of high-class birds should not be produced.

In the selection of females for pullet breeding, the nearer you can get them to the standard color the better. Avoid all shaftiness, reddy tinge, etc., as an even color all over the body is to be desired, and the breast-color should not be too dark. A number of fanciers use Wheatons to enable them to produce rich-colored Black Red cockerels, but our experience has been that the gain in brightness of color in the males is balanced by ruin to the color in the females.

Golden Duckwings are a variety that have to depend on the Black Reds to keep them up in all their glory. A medium-colored Black Red male mated to a light-colored Duckwing female produces fine Golden Duckwing cockerels, with a percentage of Silvers.

Some of the pullets from the cross will be rusty-colored Black Reds, but these mated to one of the Silver cockerels produce very good Black Red females.

Breeding a straight pen of Golden Duckwings, in a year or two the majority of the youngsters become poor Goldens and Silvers.

It is necessary to add from time to time a Golden Duckwing male from the Black Red cross to enable one to keep up the color. The same rule applies to the breeding of Red Pyles.

A Black Red male, very sound in his black, mated to a very light lemon Pyle, produces grand-colored Pyle males, but the females from the cross are Pyles with willow legs.

These females bred back to a light-colored cockerel produce very fine colored females, with a good percentage of yellow legs, a few being Black Reds with yellow legs.

Pyles can be bred straight for several years with good results, but it is always advisable to have a Black Red cross on hand, to keep up the color when needed.

The one all-important thing is, to select a male that is black, entirely free from breast-lacing, rust in fluff, etc. The blacker the bird is the whiter the Pyles will be from the cross.

In Brown Reds and Birchens the double-mating system also comes into play. For cockerel breeding, select a male rich in color, and with a goodly share of breast-lacing. There is no objection to coloring on the short-wing flights. The females should have abundant lacing on the breast that extends well over the back.

The pullet-breeding male should be more moderate in his breast-lacing; and the pullets be of the color required by the Standard.

Whites can be produced by single matings. Being a solid color, there are no problems to solve other than that of getting them as white as possible. The American Game and Game Bantam Club has been the chief means of advancing the breeding of high-class Game Bantams in this country.

Their annual meet at New York is looked forward to by the fanciers of America as the gathering of all that is good in Game Bantams.

NON-STANDARD GAME BANTAMS

IN addition to the regular and well-known varieties of Game Bantam, there are the old English Game Bantam, the Malay Game Bantam and the Cornish Indian Game Bantam. Of these, the Black-Breasted Red Malay Bantam is recognized in our Standard. The demands for these are that they shall be the same in color and shape as the large Malay fowls; that their weight shall be the same as the Cochins Bantams. We scarcely believe that any of the Malays will be reduced to the required weight for some time, although very beautifully shaped and marked specimens have been shown. This applies also to the Cornish Indian Game Bantams. They are small Indian Game fowls of Bantam size, and some

of them are quite as beautiful in shape and color as the large Cornish Games themselves.

OLD ENGLISH GAME BANTAMS

THE revival of the Old English Game fowl in England has aroused wonderful activity in the production of Bantams from its several varieties. Some very beautiful specimens of the Spangled Bantam have been shown during the past two winters in this country. We learn that in England they have these in pale red, spangled with white, also in black red of the Old English Game type. Some breeders of this country have imported them, and we shall not be surprised to see the several varieties of Old English Game Bantams become very popular with us in the exhibition pen.

The wheaten color in Game Bantams is highly valued when it is needed to use for special matings. The Pyle Wheaten hen has a breast of very pale fawn, at times almost cream color, with thighs and upper part of body light buff or lemon color. The back and wings are the color of old wheat; primaries, white; secondaries, upper web wheaten, inner web white. They have a white tail, the upper feathers edged with a wheaten color; while yellow legs and feet yellow are preferred.

The Red Wheaten has a golden hackle; fawn or cream-colored breast; thighs and upper part of body, light buff; back and wings, pale cinnamon; primaries, black; secondaries, upper web wheaten color, inner web black; tail, black, upper feathers powdered with the wheaten color; legs and feet willow.

The Duck Wing Wheaten hen has the hackle and head color white or white slightly striped with black; breast, light fawn; back and wings, pale cinnamon; primaries, black; tail and legs, same as the Red Wheaten.

ASEEL GAME BANTAMS

THERE have been bred a very few miniature Aseel Games that are called Aseel Game Bantams. Most of these are entirely too large to be placed in the Bantam class. The same is true of some other types of Bantams that have been presented under names that have been used for many years among the Pit Game breeders.

THE SEABRIGHT BANTAM

JUDGING from unauthenticated dates, Sir John Sebright began producing the breed of Bantams that are known as "Seabrights" almost one hundred

years ago. Mr. Moubray (1834) mentions Sir John Sebright, M. P. for Herts, as one of the chief amateur fanciers of this breed. As to the origin of the Seabright Bantam, Mr. Weir writes:

"It is seventy years, if not more, since Sir John Sebright, of Beechwood, conceived the idea of producing a Bantam, hen-tailed, without the pointed hackle, back, or saddle feathers, which should have instead those of an obovate form, gold color, with a complete black 'lacing' throughout. Not a few of his pigeons were rare color combinations, especially his Archangels, all black, with the exception of the whole of the wings, which were a bright, metallic, orange red. As far as I know, this variation from the ordinary Archangel is now 'lost.' Various statements have been made as to how Sir John evolved the new Bantam breed. The following, from the *Poultry Chronicle* (1854), seems at once possible and truthful. It is written by Mr. Hobbs, who was with the late Sir John Sebright upwards of forty-five years, and, therefore, may be relied upon: 'The last object that Sir John Sebright aimed at was to improve the Bantam to a clear, blue-legged (shanked), penciled (laced) bird, with proud, erect carriage. To effect this, Sir John, about five and forty years ago, obtained a buff-colored Bantam hen (possibly that known then as the Nankin) at Norwich; she was very small indeed, with clear slate-colored legs (shanks). On the same journey he purchased a cockerel rather inclined to red in color, destitute of sickle feathers, with a hen-like hackle (this bird, an aged friend of mine told me, was a 'henny' Game, for he knew the person from whom it was bought. This, no doubt, had the permanent effect of making 'the Seabright' hen-tailed), and (at Watford) a small hen resembling a golden Hamburg. After this, by drafting for five or six years, he gained the very penciled (laced) feather he so anxiously sought, by 'in-and-in' breeding for about twenty years. He afterward had a white cockerel from the Zoölogical Gardens from which he developed the Silvers.'"

The following notes are from Mr. Atherton, of Massachusetts: "It is generally conceded that the Seabrights are the prettiest of the Bantam family, the clear ground color with the well-defined lacing giving them an attractive appearance, which is not possessed by the other varieties. This breed was brought out by an English fancier, Sir John Sebright, who, it is said, obtained his first specimens from India, and crossed them with the Polish Bantam. It required years of careful breeding to perfect them, and at the present day great care must be exercised in mating them to

keep up the standard type. One of the peculiarities of the breed is that the cock's tail is similar to the hen's, and he does not possess the flowing hackle of other male birds of the fowl family. There are two varieties of Seabrights, the Golden, the plumage of which is a rich golden yellow, with a narrow, distinct, even black lacing around each feather; and the Silver,



Photograph by courtesy of Mr. Radford

BLACK-TAILED JAPANESE BANTAM COCK

Prize-winner at New York, Chicago, and Wisconsin shows, 1903, 1904. Bred and owned by Frank W. Radford, Wisconsin

whose plumage is silvery white with the same lacing as that of the Golden. The comb should be rose, and it is quite difficult to get a neat, well-formed comb on the males, the tendency being to coarseness. The utmost care and study must be given to the breeding of these birds in order to get small size and the distinct lacing around the feathers. Vigorous breeding stock must be used, for at best there will be many infertile eggs. They are quite hardy unless too closely inbred, and there is little difficulty in bringing them to maturity if they are properly started. Damp quarters should be avoided, and for the first week or two the chicks should have no water, oatmeal, bread-crumbs and Spratt's food

being the ration. To those who contemplate breeding Bantam fowls we have no hesitation in recommending this beautiful and attractive breed."

ROSE-COMB BANTAMS

THE original of the Rose-comb Bantam was likely among the most ancient of the Bantam family. The early day Black Bantam, with the proud strut and the rose comb, was the ancestral groundwork upon which has

been built the present-day Rose-comb Bantam. It has been brought to the present perfection through crossing and intermingling so much with the blood of the Hamburg that it now seems a real Black Hamburg in miniature. The term Black is used here because there does not seem to have been in the early day a White Bantam with the same characteristics as the Black variety.

The standard for the Rose-comb Bantam demands an upright carriage of tail, but not a squirrel tail; the back, very short and tapering to the tail; saddle feathers, abundant and long. The present-day Rose-comb Bantam, one of the prime favorites of the show-room, has the concave shape of the back from the comb down the neck, well up on the saddle; and the tail gradually inclining backward, full and flowing, but not in the least upright in carriage. The formation of the female follows the same general lines, and the droop of the wing, which does not fall below the hock joint, gives the proper Rose-comb formation for body and carriage of tail and wings. The comb, head, wattles and ear-lobes on both male and female are identical in formation and color with those of the Hamburg. Ofttimes is seen at present upon the female a beautifully shaped white ear-lobe, larger than that which used to be met with among the males. The males have white ear-lobes fully twice the size of those formerly grown. The eye of the Black Rose-comb is very full and prominent. This, with the bright, quick, active motion, stamps the general make-up of a most beautiful little Bantam. The comb, ear-lobe and carriage of tail in the male are among his most attractive features. Where the comb is perfectly formed, not too heavy and elegantly made; the ear-lobes, large, full, soft and enamel-white in color; the tail, long and full; sickles and hangers, long and very full, and the tail carried with a gentle inclination backward, you have the ideal for the exhibition pen. The color of the Black Rose-comb is lustrous black throughout. The more sheen the better, provided there is an absence of purple barring or foreign color of any kind.

In mating the Black Rose-combs for the production of the best, it is not unusual to practise double mating to a certain extent. That is, the finest and richest colored males are paired with females of equally rich, brilliant color; also with some of a very dull or plain black color. The finest cockerels are usually produced from the duller-colored females; the richest and most brilliant-colored females from the very rich-colored females. Many of the male birds from the very rich-colored females are badly colored,

considerable red or brownish tinge showing in the hackle and sometimes in the back and saddle plumage.

Another feature of great importance in the Black Rose-comb is the pure, unblemished color of the plumage. Ofttimes there is a tendency for gray or white to show in the flight feathers of the wing, also just above the hock joint among the feathers of the thigh. These are the weak points of color in both the Black Rose-comb Bantam and the Black Hamburg. Very often the white will show itself on the plumage of the thigh when entirely absent in all other parts of the plumage. When Black Rose-combs are desired for exhibition, wonderful care must be given to their shanks, to keep them smooth and free from roughness; for so soon as the rough formation comes upon the shanks of the Rose-comb Bantam, the white or grayish surface color is present. This is very objectionable indeed. Great attention should be paid to it at all times, so as to have a perfectly smooth shank, no matter how old the specimen may be.

Size is another feature of vast importance in the Rose-comb Bantam. The standard weight is twenty-six ounces for the cock bird, twenty-two for the cockerel and hen, and twenty ounces for the pullet. Two ounces over weight in any of these is a disqualification. We have seen some beautiful little pullets at the winter shows that weighed less than eighteen ounces, and one of the most beautiful cockerels that we have ever met weighed about twenty ounces. It is not always best to select the very smallest specimens for breeding purposes, but it is most desirable to have them just as small as they can be for exhibition, provided they display all the breed characteristics.

WHITE ROSE-COMB BANTAMS

UP to within eight or ten years ago, the White Rose-comb Bantams were of a very poor quality in England. At a much later date the quality was poor in this country. Writing of the quality of the White Rose-comb Bantam, R. Fletcher Hearnshaw, of England, states that the veteran fancier, G. H. Pickering, has had much to do with improving them within the last few years. The best, he states, always come from Yorkshire, and it has been hinted that the best results have been gained through the infusion of Black Hamburg blood into the Whites, as well as into the Blacks themselves. The great trouble with this crossing has been that the progeny would be afflicted with blue legs. Breeders are therefore strongly

advised not to follow such a method, but to select the very best obtainable, mate them with care and selection, and in this way improve form, color and head qualities.

The greatest drawbacks with the Whites have always been their delicate constitution, defective ear-lobes and badly colored shanks. The shanks of the White Rose-comb Bantam should be yellow or white. We prefer the white shanks with the pinkish tinge on the back of them and between the scales; toes the same color as the shanks. These are far more beautiful upon the White Rose-comb and more natural to it than are the yellow or darker-colored shanks.

In selecting both the White and the Black Rose-comb Bantams always strive for good constitutional vigor, nicely formed bodies and good plumage. When you have these characteristics, you must add to them the highest quality obtainable in comb, wattles and ear-lobes. Remember that experts very often are tempted to use the knife in tampering with, or "improving," the shape of comb. Examine carefully for this when selecting a breeder, for oftentimes miserably shaped combs have been trimmed into presentable perfection.

To produce the highest type of Black cockerel, they would select a male bird, free from red or straw-colored feathers, with good, sound, black legs, especially fine head points, lobes as large and perfect as possible, and with such a male the most elegant hens or pullets would be mated. Never select the females with the most lustrous plumage for the production of cockerels. It is always best, if possible, to use females in their second year, rather than to depend upon pullets, for producing the young stock. On the other hand, when mating for the production of exhibition pullets, the females showing the most brilliant sheen in plumage should be selected. A short back in the female is considered of great value. The same caution is applied to selecting the breeding-stock for the White variety.

The only difference is that it is necessary only to have one pen for producing both the males and the females. All of these, however, must have very strong comb and head points; fine, large, clear-white ear-lobes; perfectly pure-colored plumage, and nice, clean, smooth, pinkish-white shanks and toes. Such matings, if bred in line from good producing stock, are bound to bring exhibition specimens of a quality that will go on improving from year to year.

Above all things, avoid red in the ear-lobes of your breeding-stock.

It would be far better to have one pure-colored pair than to waste your time on a large number that have this defect. To produce the beautiful, pure-white ear-lobes is a task well worth the attention of the best fanciers, for even these would not have any hope of success if their stock were branded with any considerable amount of red in the ear-lobe. The breeding of Rose-comb Bantams may become a profitable pastime, provided one is supplied with a good quality of stock from which to produce, but it is certain to prove a disappointment if the quality of the stock gathered for production is of an inferior grade or bred from a poor-quality stock.

BOOTED BANTAMS

THE most popular and the best-known breed of all the Bantams was the early day White-booted Bantam. This and the black variety are still largely bred in many parts of England. Quite a number of the Whites are bred in this country, but few Blacks have ever come among us. The early day Booted Bantam was of diverse kinds. Some of those with crests and beards are met with up to the present time, but the non-bearded variety, as they are commonly called, have always been the most popular.

Booted Bantams are considerably larger than other Bantams, though the Standard demands the same weight in Seabrights, Black Rose-comb and Booted Bantams. Seldom, if ever, is seen a pair of Booted Bantams that will not considerably outweigh either of the others.

The Booted Bantam stands rather erect upon shanks of a fairly good length, both shanks and toes being heavily feathered, the hock plumage full and extended. Ofttimes the plumage of the hock will be as much as four or five inches in length. When this is very heavy, and the specimens are heavily booted on shank and toes, if in fine, presentable condition, they are most attractive specimens. The Blacks are the more desirable if they can be had in a good quality, because they are more easily kept in good show condition. The early day White-booted Bantams had yellow shanks and beak. These have gradually changed until, at the present time, white shanks, toes and beaks are demanded. They have single combs, red ear-lobes, and the feathers on shanks and toes are of heavier growth, naturally, than the same feathering upon the Cochin Bantam. The wings of the Booted Bantam are long and extend out behind the body. Often the end of the wings and the feathering on the hock joint reach almost to the ground. The male of the Booted Bantam has a long, full, well-finished tail.

BRAHMA BANTAMS

ALL who are familiar with Asiatic Bantams are unanimous in granting the credit for the early production of Light Brahma Bantams to Mr. Entwisle of England. The first seen in this country are said to have come from his original stock, but the type of Brahma Bantam, as well as of the large Brahma, bred in England, would not meet the requirements of this country. The early day Brahma Bantams were marked with the disqualifying scourge of vulture hocks, which cannot be tolerated here.

The Brahma Bantams, as we sometimes have them, are an exact miniature of the large Brahmas. They have the Brahma shape, the Brahma color and markings, and the close-rounded hocks as demanded in the Brahmas themselves. The great trouble has been that, to reduce size, the Brahma Bantams and the White Cochin Bantams were crossed until the influence of the blood of the White-booted, the shape and short legs of the White Cochin Bantam had almost utterly destroyed the form and color of the Light Brahma Bantams, as they first came to this country from England.

A determined effort at improvement demanded the introduction of the blood of our large-sized Brahmas into the Light Brahma Bantam. This has been successfully accomplished, and we now often see in the exhibition room specimens of the Light Brahma Bantams that are very creditable



Photograph by courtesy of Mr. Radford

BLACK-TAILED JAPANESE BANTAM PULLET

Winner of many prizes, 1903, 1904

Bred and owned by Frank W. Radford, Wisconsin

to the breed in form, size and color. In all of these there is still room for improvement, more perhaps in color than elsewhere. There is entirely too little of the rich black marking upon the pure white, and the wings of the Brahma Bantams are quite defective in color. When we stop to consider that in the breeding of the early day Light Brahma Bantams the Gray Aseel blood was used, as well as Brahma and Cochin, the union of these with other crosses that have been made would naturally bring about an admixture of blood that will be at war for some time to come.

Another matter of vast importance is the well-formed pea-comb of the Brahma, which has been interfered with by the many crosses. Care and selection have improved this so much that scarcely any trouble will be needed in the future to have the comb of the Brahma Bantam almost as well defined as that of the large Brahma.

As stated before, it is absolutely necessary that the Light Brahma Bantam of the future shall be a small Brahma in its entire make-up. In mating to produce the best, always select the finest form, the smallest size, and the best color possible. Even should the male bird be considerably darker than would be admissible in the exhibition pen, do not hesitate in its use, because from such a one you are more than likely to build up and improve the color of the offspring. The time is almost past when it will be permissible to have simply fairly good specimens of the Brahma Bantam. The few good ones that have been produced have taught the experts and the general public that it is possible to have them of the proper quality. The striping in the hackle must be improved; it must be brought to the quality of the large Brahmas in both males and females. It is only necessary to study the description of the Light Brahma in the first volume of this publication to be fully informed as to the shape and color that is demanded for the Light Brahma Bantam. Added to this is the positive demand for standard size, which allows only thirty ounces for the cock bird, twenty-six for the cockerel and hen, and twenty-four ounces for the pullet. The proper size and form, color and markings must be retained or the Light Brahma Bantam will deteriorate so much in quality as to be set aside without consideration.

DARK BRAHMA BANTAMS

PERHAPS the best Dark Brahma Bantams that have ever been produced are those that originated in America from the union of an Entwisle

male bird with a small-sized Dark Brahma female from Newton Adams' pullet-breeding strain. None of those we have bought from England have ever equaled the American strain produced by the above crosses. This having been done by the writer, he willingly describes the plan followed, so that it may be adopted by any who are interested in the breed.

As before stated, the Entwisle stock was crossed upon a female of the Adams pullet-breeding strain. A double cross was successfully made the first season. In other words, chicks hatched in March from this cross were set in September upon their own eggs, from which they hatched chicks and reared young during the winter months. Through this method, some comparatively small females were produced, and these were made use of the second season. Five years of continual selection of the smallest females and the smallest and best of the males made it possible within six years to produce a strain sixteen of which were entered in the Boston show and won all the prizes excepting one third and one fourth in the four classes.

All the males and females of this strain have come from the one line of breeding. No double mating has been applied for the production of males. The production of females was kept up from the start to finish, and the best males produced in this way were selected. This strain of dark Brahma Bantams passed into the hands of D. Lincoln Orr, President of the American Poultry Association, and from him to the Lone Oak Bantam Yards, of New York. We do not know that any one has ever produced their equal up to the present time.

Dark Brahma Bantams have increased largely in popularity in the last few years. Formerly few were seen, but recently large classes of them were shown both at fall fairs and winter shows. The Dark Brahma Bantams are identical in shape and color with the Dark Brahmas themselves. To the rich white top color of the male bird, striped with black, the black breast and body are a striking contrast. The beautiful steel-gray of the female is penciled with a darker shade. We doubt if any fowl has ever been shown more elegant in form and color than the handsome, well-finished Dark Brahma pullet.

In mating the Dark Brahma Bantams for producing the finest and richest color and markings, much depends upon the line of breeding from which your stock is selected. If you select from a stock that is strong and

rich in the pullet-breeding blood, you may usually depend upon the quality of the females that are produced. Whenever blood is introduced that comes from a line that produces the dark, rich-colored males, it is almost certain that this will destroy the fine coloring, and also the penciling in the females. It is almost impossible to produce fine-penciled Dark Brahma females from the mating that will produce the rich dark-colored males. The fine, steel-gray color of the female will not stand the distinctive influence of the very dark color of the male-producing strain.

COCHIN BANTAMS

THE original Cochin Bantams came from Pekin in the early sixties, and for many years were known as Pekin Bantams. Those that came from China were a deep, dark cinnamon shade of color. In fact, the male bird was almost a reddish-brown, the female several shades lighter than the male; but few of these came into England or this country. To improve and strengthen the constitutional vigor, and avoid the danger of inbreeding, a cross was made with these and the Nankin Bantam. While the Nankins are much the same color as the original Pekin Bantams, they had the greenish color in shanks which was transmitted to the product of this cross. From this, or some other, influence the fifth toe was added to a large proportion of the early day Pekin Bantams.

We are rather inclined to believe that only two colors ever came from China, the buff and the black, and that the white and the partridge were produced in this country through crosses with the large Cochin fowls. The first importations from China were buff. Several years later some black ones were brought into England. The black males were crossed with the darkest of the buff females. Some of the lightest Lemon-colored Buffs were mated with the White Booted, and an intermingling of several of these produced the lighter of the Partridge Cochin Bantams. All of the varieties we have at the present time are the result of crossing some of each of these Bantams with a large-sized Cochin of the same variety. Through selection, mating, late hatching and other methods, proper size, with true Cochin form and color, has been gained.

It required many years of constant care and attention to rid the Buffs of their green shanks; the Whites of white shanks and vulture hocks; and it was equally difficult to eliminate from the Blacks the white under-color in plumage that came from crossing with the Buffs and the Whites,

and to establish a good color in the Partridge Cochin Bantam. Even to the present day, the undesirable reddish-brown color will crop out in the Buff Cochin Bantam.

In the matter of shape, the long back, the long shank and thigh and the pinched tail are most undesirable. All three defects should be carefully guarded against. It is unfortunate that the Cochin Bantam does not reach its maturity and best shape before the second year. For this reason, it is desirable to select only the best hens for producers, and with these use the finest-shaped males it is possible to obtain, no matter what their age may be. Form, feather and color in the Cochin Bantam are even more important in the large Cochin. There may be some use for a large Cochin of bad color, but no possible value can be placed upon a Bantam that is defective in shape or color. Perfection is an absolute demand in Bantams of all kinds.

Of recent years, many Cochin Bantams have been seen in the buff, black and white varieties that fully equal the other Cochins in all requirements of form and color. In size they have been all kept about the same. Some very good Partridge Cochin Bantams have been seen, but so few of them are of noticeable quality that it would be scarcely within bounds to say that they equal the others. When you consider how recent their origin is, they certainly have been greatly improved in the last five or six years.

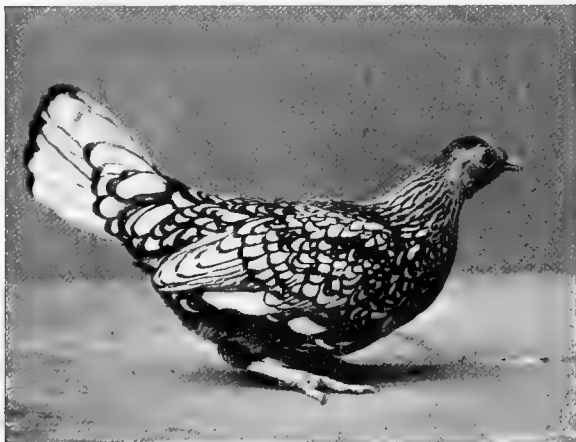
BUFF COCHIN BANTAMS

THE original Cochin or Pekin Bantam was the ancestor of our present buff variety of Cochin Bantams. The fanciers of America at first showed great ability in producing these little Bantams of the proper size and color. These early day specimens were long in the leg and quite deficient in Cochin quality, shape and feather, but within the last ten years many Buff Cochin Bantams have been produced of the true golden buff shade that equal any of the Cochins in breed characteristics, color and feather.

Even yet there is considerable difference between the manner of breeding these Bantams in England and in this country. The specimens that come from England are darker in the shade of surface color, carry considerable black in wing and tail, and are not so true either in surface or under color as we have them at the present time.

Naturally, the Buff Cochin Bantam male will be considerably darker than the female. This was so when they came from China; and when

naturally mated, as they were on first coming to us, they always produced the dark cinnamon males and the lighter-colored females. This has been changed through the mating of our standard Buff Cochins with some



Photograph by courtesy of "American Agriculturist"

SILVER SEABRIGHT BANTAM HEN

First at New York State Fair, 1902. Bred and owned by A. E. Blunk, New York

of the Bantam males, and by selecting and reducing the size fine color has been obtained. To aid in this, some have crossed the buff and white varieties, selecting those from this cross which showed the purest buff in the plumage color. In crossing and recrossing from both these lines, shade, color and feathers have been greatly improved.

In the mating of Buff Cochins Bantams for shape, always select the most

perfect Cochins type you can possibly obtain. For color, select a good, even, true shade of buff throughout in the females, and mate them with a male that has the breast plumage one or two shades darker or richer in color than their own. Never make use of reddish-buff, brown or cinnamon-colored males if you hope to produce good exhibition color. One absolute rule in the production of buff is that the truer and richer the color of the specimens you breed from the more likely will you be to produce well-colored offspring. Whenever black is prevalent or present in the plumage, you are certain to obtain darker-colored specimens than the ones you breed from. When white is prevalent, or present, in the under-color or plumage of the producers, you are certain to have a lighter-colored plumage in the offspring; and as sure as light- and dark-colored birds are paired together, just so sure are you to have offspring with a mottled, or mealy, surface color.

The shade, fluff and heavy cushion of the Cochins Bantams depend largely upon the very heavy underfluff of the feather. The heavier and denser the underfluff, the more full and rounding will be the formation of the specimen. The web of the feather of a Cochins or Cochins Bantam is

only one-third of the whole feather, when properly formed, the balance or two-thirds being fluff, or the underpart of the feather. The very short-feathered, scantily fluffed plumage is usually present upon the close-feathered specimens.

The Buff Cochin Bantams of to-day are as distinctively an American breed as are the Plymouth Rocks or the Wyandottes. They have been gradually built up by great attention in the mating paid to true Cochin shape, pure buff color, soft, round hocks, profuse fluff, and heavy leg and toe feathering. No specimens that have come from abroad have equaled our own, and if ours were sent to other countries they would be considered deficient in the qualities most desired there. These differences in form, feather and color in the Bantams and other poultry between this country and England had much better be removed for the future interest of all.

BLACK COCHIN BANTAMS

NO MATTER what the variety color may be, all Cochin Bantams must have the true Cochin shape. The standard demand is identical in the large Cochin and in the Cochin Bantam; in fact, the Cochin Bantam is simply a miniature imitation of the true Cochin. It must have the form, the feather, cushion, the fluff, and the shank and toe feather as prominent as in the large Cochin. The old-time Black Cochin Bantam was produced from a cross between the imported black Cochin Bantam and the domestic Buff Cochin Bantam. Many of them were also infused with the blood of the Nankin Bantam.

Remember in the handling of Black Cochin Bantams that the male has the greater influence over color. It would be almost useless to hope to produce good colored males from a sire having bad color in surface and underplumage. A male bird showing white in the undercolor is almost certain to produce bad-colored cockerels. On the other hand, a male bird of a rich, lustrous black plumage throughout and rich, dark underplumage is the correct one to use for the production of well-colored cockerels. Producing the proper surface color and undercolor in the females is not so difficult. Many good females were produced and shown prior to the time that males were seen with a good solid undercolor.

With these, as with the large Cochins, there is a tendency to show white in the shank and feathering; but even this has been almost entirely driven out by a determined effort to have a perfect black color. One of

the first, and perhaps one of the finest, of the early day Black Cochins was produced with the rich, lustrous, bottle-green surface color and a black undercolor. He had yellow shanks and yellow-shaded feet and toes, and was considered a wonderful specimen. The most advantageous change for the benefit of the variety has been the recognition of the fact that black, or black gradually shading into yellow, is the most desirable color for the shanks and toes of a Black Cochin Bantam. With these it became more possible to have a true color throughout. In the mating it is of vital importance that none but those having the soundest color should be used.

In mating the Black Cochin Bantams, it is not unusual for a double process to be followed. This, however, is not necessary, because both kinds of females may be used in the same mating. Always select the most perfect Cochin type for the specimens to be used as producers in all varieties of Cochin Bantams. The Black Cochin male that heads the pen should have the Cochin characteristics to the greatest possible extent, and in addition should have the richest, most lustrous, bottle-green plumage on the surface that it is possible to obtain. The undercolor should also be as dark as you can get it. With such a male, the rich, glossy females will produce the best male birds, while the more somber, or plainer-colored, black females will produce the best pullets. Some make use, even at the present time, of the male birds with the light or gray undercolor for the production of pullets. It is scarcely advisable to do so, nor is it necessary, provided you have females both of the rich, lustrous, surface color and of the plain, soft or dead black color to use in the mating.

We should not advise nor encourage yellow shanks in the Black Cochin. One defect that must always be avoided in the Black Cochin and also in the White is the tendency to white in the ear-lobes. Just why these should occur there does not seem to be any plausible excuse, but it is said that at times some of the large Cochins show so much white in the ear-lobe as almost to disqualify them from the exhibition room.

WHITE COCHIN BANTAM

WE incline to the opinion that the first White Cochin Bantams that came to this country were brought here by J. D. Nevius, of Pennsylvania. A. P. Groves, of the same State, was one of the first to take hold of this variety and to attempt the establishment of a strain that would

be pure Cochin in type and feather. Mr. Groves states that his strain came from white sports of the buff variety that he was breeding. These were carefully selected, mated and cared for with a determined effort to have a strain that would equal the other Cochin Bantams. In this Mr. Groves succeeded remarkably well. Following him came Charles Jehl, now of New Jersey, who worked somewhat along the same lines and produced perhaps the finest specimens of the early day White Cochin Bantams.

PARTRIDGE COCHIN BANTAMS

THE origin of all the Partridge Cochin Bantams must be credited to Mr. Entwisle, who produced the first as the result of a cross between a Black and a Buff. These, mated with very small Partridge Cochin females, were reduced and bred down to Bantam size. Some of them were imported into America early in the nineties. H. S. Babcock, of Rhode Island, also produced a strain of Partridge Cochin Bantams. He was not, however, fortunate in the continuance of the variety. In 1895 the writer imported from England a trio of Partridge Cochin Bantams. From the offspring of this trio, mated with small Partridge Cochins from Mr. Mitchell's stock, was built up the present strain of Partridge Cochin Bantams that has done so well in this country. Nine years' experience has taught the importance of absolute certainty in the blood lines for producing pullets. It is quite as necessary that this should be strong and true in the large Partridge Cochin. Nothing is of more importance than to have male birds for pullet production that have been bred in line from the female strain. The introduction of the dark-colored males demanded for exhibition is almost certain to destroy the surface color and also the markings. The greatest fault in the English Partridge Bantam is caused by a marked difference in the color demand there and here. The English standard calls for light brown or yellow, finely penciled, in the female. The neck is to be a golden yellow, each feather striped with greenish-black down the center; while our standard calls for mahogany red, distinctly penciled with brown or with black. The male bird, according to the English standard, is very much lighter than is permissible with us. It is much easier to produce both males and females of exhibition quality in the English type from single matings than it would be to produce the same from single matings with us.

In producing a quality of this variety fit for exhibition, we had to

establish a double line of matings. Using only the direct descendants of the beautiful three-and-a-half-pound pullet, and the four-pound cockerel from Mr. Mitchell's yards, we started a strain of pullet-breeding Partridge Cochin Bantams through the double use of these with our Bantams.

Even with close attention, not so much progress has been made as we hoped, though considerable has been gained. It has been easier to produce good-colored males through the use of the darker females, mated with the best-colored males that we possessed. Many male birds have been produced and sold to the show-room as winners. One of the best that we ever

produced won at the New York, Boston and other prominent shows continually for four years, and was, up to the show season of 1904, the best of his kind that we have ever met with.

In proof of the quality that has been produced in the Partridge Cochin Bantam, one of these a few years ago won the special for the best Cochin Bantam in the Boston show, all four varieties competing. This ability to gain the prizes over imported birds, winners at the Crystal Palace and in America also, speaks volumes, but it is a most difficult task to produce them of such quality. Size is very hard to obtain and control in a strain that has descended from the large variety. It is best controlled through the selection



Photograph by courtesy of Mr. Radford

BLACK JAPANESE BANTAM COCKEREL

First at Wisconsin, 1904. Scored 94½ points

Bred and owned by Frank W. Radford, Wisconsin

of the smaller-sized females, but it often happens that the larger ones have the finer color and penciling. To make use of these, it has been found advantageous to hatch the first clutch of Bantams as early as

March, and then so soon as the pullets show an inclination to lay, to mate them back to their own sire and hatch the late-laid eggs, raising the chicks during the fall and winter months. In this way have been produced some of the smallest and best exhibition specimens both in Partridge Cochins Bantams and in Dark Brahma Bantams.

One winter, nineteen of these two varieties were housed in a small coop out of doors, the two Bantam hens that mothered the chicks remaining with them for almost three months during the winter. It is surprising how well the little Bantams stood the winter, and came out in the spring with great vitality and constitutional vigor. It is a mistaken idea that Cochins Bantams are not hardy. They will stand almost as much exposure as the large Cochins, if kept out of the damp, and well fed. It should always be borne in mind that length of feather is quite as important in the Cochins Bantam as in the Cochins themselves. Length of feather and very heavy under-fluff are the desirable features to obtain, for with these go the rotund form so desirable in the Cochins, and the heavy fluff which fills out the cushion of the back, as well as about the hocks, giving a well-set appearance. In the Partridge Cochins Bantam every attention possible should be paid to selecting the proper mahogany surface color in the female and the very deep, rich hackle and top color in the male with the rich black breast and under-body color. All of these features must have the same attention as in the large Cochins; and it is well to remember that all Cochins Bantams ought to have the true Cochins shape, with plenty of fluff and feather and the most exquisite color demanded for each variety. In the Partridge Cochins Bantam male and female must be equally brilliant, as lustrous and attractive as the large Cochins.

CUCKOO COCHIN BANTAMS

THE Cuckoo Cochins Bantam is the variety that has the true Cochins form, but the shape and color of the Barred Plymouth Rock. They were produced originally by crossing the pure White and the pure Black Cochins Bantams. By selecting and carefully mating these, offspring have been produced of fairly good color, presentable in quality. Many of them, however, are disfigured with bad surface color, and considerable of a red or brownish cast in the plumage. Like the Scotch Gray, the Plymouth Rock, and the mottled Bantams, known as the Ancona Bantams, these are only desirable in the very finest quality, and they demand

more care and attention in production than any one of the other four varieties.

The Cuckoo Cochin Bantam can be described as a Bantam having the true Cochin Bantam shape and the very best obtainable Barred Plymouth Rock color and marking. These, together with the usual demands for the Cochin Bantam, are the requirements for this variety, and while not recognized in the Standard, occasionally some specimens are seen of very good quality.

NANKIN BANTAMS

THIS variety of Bantams is one of the very oldest of the breed. Formerly, they were very plentiful, but at the present time are seldom seen. They are oftentimes described as a small, buff-colored Bantam, having green-colored shanks and black tail feathers. This description would scarcely fit the Nankin in its purity. The male is of a rather deep cinnamon or reddish-buff, except the tail, which shows more or less black. The less black there is in the tail plumage the better. The legs and feet are blue; comb, face and lobes red; comb single; eyes red. The hen is a lighter shade of buff throughout, and the main tail feathers are shaded with black; at times the whole main-tail plumage black. Those that have been seen in recent years differ from this in having a tendency to the Rose-comb type or form, with the lighter buff color throughout, both in male and female. Both have black main-tail feathers, the furnishings and coverts of the male being often striped with black.

It has been stated that the Buff Rose-combs have been produced through crossing the White Rose-comb Bantams with the Nankin. In this way some showing Nankin color have been used to breed in with the true Nankin, thus bringing these two non-standard varieties more nearly alike in shape.

POLISH BANTAMS

SEVERAL times in the history of poultry, Polish Bantams of all the colors and varieties of the large Polish fowls have been bred. The success with these several varieties has been limited. We have read of the Black Polish Bantam with the white crest and the White Polish Bantam with the black breast. We have seen the Golden and Silver Polish Bantams, and the White-Crested Black Polish Bantam of fairly good quality. In

this country there was produced and admitted to the Standard a Buff Laced Polish Bantam for which the requirements were the same for shape and color as in the large Buff Laced Polish. They were to be a rich buff, the edge of each feather laced with pale buff. A few of these were shown throughout the East for several years, beginning about 1887, but during the last four years I have not known of a single specimen having been shown.

Perhaps Doctor Phelps, of New York, has imported more varieties of the Polish Bantam than any other American fancier. He has been known to have the Buff Polish, the White-crested White Polish, White-crested Black Polish, Chamois Polish, Golden Polish, and Silver Polish. All of these might be termed quite rare, and classed entirely with the ornamental fowls.

The crowning success in Polish Bantams, however, has been gained by F. B. Zimmer, of New York, who originated the White Polish Bantam, known as the "White-crested White Polish Bantam." These he has evolved in Bantam size with all the Polish characteristics, having the blue or semi-blue shanks with and without the beard. The best of them are fully equipped with fine, handsome, well-shaped crest and beard. These are without doubt the finest of all the Polish Bantams that have ever been produced.

In writing of them, Mr. Zimmer states that some twenty years ago they originated in Massachusetts. At that time they were in a very crude state. Mr. Zimmer procured the whole of the stock and became the sole owner, it might be said, of this variety of Bantams in the world. After many years of care and attention in selecting and mating, with the determination to have the blue legs, the V comb, the crest and the beard of the most perfect quality, he now possesses a flock which is most attractive to see. Not long ago we saw some twenty-five or thirty of these in a quality that would rival the best of the White Polish breed. The standard demand for all the Polish Bantams is the same as that called for in the large Polish. The only difference is that the weight of the Polish Bantam runs below twenty ounces—hen or cockerel, twenty-two ounces; cock bird, twenty-six ounces. When larger than this, they cannot be classed as desirable Polish Bantams.

The several varieties of Polish Bantam mentioned indicate the kind and quality by the name. Each of these has the variety color that con-

forms to the title by which it is known. They are classed as non-standard Polish varieties, and need no further description than the mention of the name.

THE SULTAN, OR WHITE-BOOTED POLISH

It may not be out of place to mention here what is known as the Sultan fowl. Perhaps there is no Bantam or fowl of any kind or character that has so many distinctive traits. It was described as early as 1854 as a "Bantam." Those shown at the present time are quite as large as some of the Polish fowls. They are a booted Polish, pure white in color, having crest and beard and, in addition, the long-extended hocks and very heavy shank and toe plumage. In our Standard they are not classed as Bantams, but in some of the older works they are so described, and it is thought that the smaller specimens, called Bantams, were the result of a cross between the Sultan and the White-booted Bantam. These were a very small White-booted Bantam with the crest and five toes like the Sultan, but differing from the latter in size.

THE JAPANESE BANTAM

ART in Japan is not only of a very fine, poetical and finished order, but the love of it is almost universal. The common people appreciate the line, form and color of the beautiful, and also in a greater or lesser degree are able, with varying success, to produce it in the growing animal, bird and flower. By selection and cultivation they bring these subservient to their will, and make them their models, from which by artistic combination they reproduce Nature in many lovely fabrics, paperings, carvings, lacquerings, metallic, and fictile elegancies. All are true in form, perfect in arrangement, and each possesses harmonious individuality, quaint, beautiful, attractive, or comic, as the case may be, but always in good taste, and ever ornamental. As a people endowed with natural observation, they accomplish equally wonderful results in the higher branches of pictorial art, in beauty of decoration with flowers—the pæony, the iris, the lily, and the chrysanthemum. Their poultry, one and all, testify to their skill as well as their fine feeling both in form and color arrangement. In all variants of Nature, the Japanese, as a nation, are inimitable. It is from their incarnated fancies that we derive those charming and ever-enjoyable "things of beauty," their vases, tazzas, plates, and dishes. So pure is a

Japanese work of art that, wherever placed, it never over-asserts itself or seems out of its element.

The Japanese Bantam cock is very small, with upright body and tail, carried so as to touch one another (according to the most approved style, the tail is devoid of sickle feathers), and their place is supplied by two of sword shape, the curve being perfect, and corresponding to that of the back of the neck, where the hackles are full and graceful, also curved to the shape of the body, which is broad, short and rotund. The wings are large for the size, carried low, and the points almost touch the ground, as do the "side hangers," meeting behind under the base of the tail, which is full and incurved to the shape of the body, the whole making a ball-like or compact, yet elegant, ovaled form. The legs are very short; the head small, somewhat broad at the base of the skull, and tapering toward the beak, which should be of medium thickness and have a somewhat downward tendency; comb of medium size, spiked, thick at "the setting on," gradually thinning upward, but firm and upright; the wattles, elongated, yet rounded and broader at the lower part, the front edges recurved against the centers; face, naked; the eyes, large and full; the whole habit, bright, lively, and quaint in appearance. The hen should be smaller than the cock, upright in carriage of body and tail, in some varieties very much so; the tail, long and full, larger and lesser tail coverts incurved, so as to meet under the belly, etc.; body, short, round, and fleshy; legs, very short; head, small; comb, serrated, middle size, and upright; beak, rather short and somewhat down-curved; eye, large and full; whole form a peculiar obtuse oval, but, like the cock, charming and attractive.

They are of every color and markings: white, black; black, with white tips to their feathers; brown, with black and white tips; white, with black stripes on the hackle; black tails; the sword-feathers and side, larger tail coverts black, edged with white. In the feathered-shanked birds, the larger feathers on the toes are black, the rest white; dark, silvery gray with black breast in the cock; the hen gray, as in the silver-gray Game fowls, and Black-breasted Reds. Some of the same have white spangles on the black breast, or are brown breasted; black-breasted dark reds with partridge-colored hens; light silvery grays; brown and bronzy blacks; brassy-winged blacks; buffs with black tails; also cinnamons. All these colors are "made in Japan," and during the last century have been imported. Their evenness of size and form would be surprising did they not come

from a country full of art, where neither trouble nor time is spared in the attainment of perfection. They are not good layers, seldom laying more than from twenty to twenty-five eggs a year, though sometimes the pullets will far exceed that number. They will hatch their eggs in twenty days, and often in less. The chickens are small, delicate, and difficult to rear, but when once full-grown they are hardy.

Henry Hales, of New Jersey, an old and ardent fancier, writes of this breed of Bantams as follows:

"The Japanese were not slow in discovering the variability of *Gallus bankiva*. There are few, if any, species of feathered beings which in their nature are so susceptible to environment. Theodore Sternberg writes me that they vary in color very greatly in the Philippine Islands; all colors, including white and black, are bred up to a fair-sized Game bird. The Japanese appear to be foremost, with their keen eye for the beautiful in nature, to take advantage of these natural traits of our little Bankiva, and to breed



Photograph by courtesy of Mr. Radford

BLACK JAPANESE BANTAM PULLET

First prize winner at Chicago and Wisconsin, 1904
Bred and owned by Frank W. Radford, Wisconsin

by selection their beautiful long-tailed Phoenix fowl, Fan fowl, and the funny little birds we call Japanese Bantams. They must have used much skill in selection before they arrived at these grotesque little lumps of conceit, with their long, full tails reaching to their heads, and their full, long wings often sweeping the ground and covering what in other fowls we call legs. As they are the first sports from the little wild birds, it is natural there would be great diversity of color. In no other

single breed of poultry could we put together black-white, black-tailed white with one gray cock, and throw out all of these original colors, besides buff, silver-gray, golden, laced, mottled, birchen color, red, and spangled. Some have patches of black and white placed as I never saw on any other fowl. The patches were angular, such as are sometimes seen on a tame black-and-white rabbit. The Japanese did not seem to care about breeding to a line of color so much as they did for shape, size, etc. Some have feathered legs and some clean legs. I was tempted to breed together the lot I have described, from having seen pictures of a variety of colors in Japanese drawings. I was much surprised at the result. I selected the gray and golden, as I had no room for more varieties. I am sure there is a fine opening for American and English breeders to breed them in lines of color to many varieties. The only colors in our Standard of Perfection are white, black and black-tailed white. Although they have long wings and know how to use them, they can be made very tame by petting. They are contented with a limited range and quarters. I have kept many varieties of Bantams, but never had any so hardy nor such good layers."

Mr. Weir and Mr. Hales differ somewhat as to the laying qualities of these Bantams. Both may be correct, for the fanciers of America have paid considerable attention to improving the laying qualities of all Bantams. Under the American Standard we describe but three varieties of these Bantams: the pure White, the solid Black, and the Black-tailed Japanese. Two of these, as indicated by their names, are solid colored, the one pure white throughout, with yellow shanks, toes and beak; the other lustrous black throughout, shanks, toes and beak, yellow shaded with black. The Black-tailed variety is pure white with the exception of wing and tail markings. In the male these are as follows: primaries, dark slate or black, edged with white; secondaries, dark slate, with wide edging of white on the upper web, lower web, white; coverts, white; tail, black; sickles, black edged with white; tail coverts, same as sickles. In the females, the wings are marked the same as in the male; main tail feathers, black, the balance, white; shanks and beak, yellow. When the wings are folded, little, if any, of the dark shadings are perceptible. In the finest of the present-day specimens the dark shanks are quite black.

NON-STANDARD VARIETIES

THE craze for the production of numerous varieties of fowls, including Bantams, has given us of late years many kinds of these little pets, which, though attractive, have little value outside of their beautiful appearance



WHITE-BOOTED BANTAMS, 1897

Drawn by Mr. Weir

as ornamental poultry for the pleasure of those who have them. Of these, the most prominent is known as the "Barred Plymouth Rock Bantam." There is little difference between it and the Scotch Gray, excepting that the Plymouth Rock variety has the yellow shanks while the Scotch Gray has white shanks. There is an effort being put forth to bring this variety true to Plymouth Rock shape, but at the present time they are more of the Scotch Gray type, in shape and length of sickles and shape of tail, than of the Plymouth Rock type. They are quite attractive and give promise of being brought to the true shape and characteristics demanded by their name.

Of the Mediterranean Bantams, we have the Rose-Comb Brown Leg-

horn Bantams, the White Leghorn Bantams, Black Minorcas, the Anconas, and the Single-Comb Brown Leghorn Bantam. All of these are very small fowls, many of them within the proper size for Bantam, but with the color and markings of the larger fowls for which they are named. In addition to these, there is the Black Langshan Bantam, the Buff Rose-Comb, Whiskered-Black Booted, White and Black Frizzle, the Black Orpington Bantam, and several added colors of the Frizzle and Japanese which come rather as sports from cross matings than from true breeding.

SCOTCH GRAY BANTAMS

ONE of the most prominent of the non-standard varieties of Bantams at the present time are the Scotch Gray Bantams. These have attracted considerable attention of late on the other side, but very little has been paid them with us. The description calls for a ground color of pale slaty gray on white, and a very thick barred stripe across the coloring, like our Barred Plymouth Rocks. As stated before, they are fashioned somewhat after the type of a Rose-Comb Bantam, carrying their wings somewhat drooped. The male has a long, full, sweeping tail, resembling the Rose-Comb. They have single combs and whitish shanks, mottled with the darker color.

RUMPLESS BANTAMS

RUMPLESS Bantams have been bred, also made. Those who make the Rumpless Bantams to order find it necessary only to dislocate the "pope's nose" from the young chick as soon as it is hatched. In this way there is created a rumpless specimen of any desired breed or variety. While it is contended that there are varieties of rumpless fowls and rumpless Bantams that reproduce of their kind, we are rather disposed to question this statement with regard to the Bantam at least, though willing to be convinced by having some of their eggs to hatch.

FRIZZLED BANTAMS

SOME of the most beautiful Bantams that we have seen are of the frizzled varieties. Of these we have seen pure black, pure white and some in mixed or broken colored. When they are small, nicely feathered and in good plumage, they are an attractive novelty, but, like all ornamental Bantams, they are valued only in accordance with their quality. To attract, they must be perfect in form, feather and condition.

BLACK SPANISH AND BLACK SEABRIGHT BANTAMS

ANOTHER variety of Bantams, a few of which have been shown, are the Black Spanish Bantam and the Black Seabrights. The Black Spanish Bantams are simply small Black Spanish fowls. The Black Seabright Bantams are shaped like the Seabright Bantams and are pure black throughout. They are neither so beautiful nor so desirable as are the Black Rose-Comb Bantams, and we are very much disposed to think that they are much the same, perhaps the product of intermingling with the Seabrights.

SILKIE BANTAMS

THE Silkie fowl is often spoken of as the Japanese Silkie, presumably on account of its having originated in that country. Writers seem to think that for many years it has been bred both in China and Japan. Bantams under this name have been bred in several colors—white, yellow or golden brown, and black. Some of these have single combs, while others have the walnut comb. Whether these are the true Bantam or only the product of crossing the Silkies with other fowls has not been authentically stated. One peculiarity of the Silkie is the formation of the feathers, which are more like cotton or hair than feathers.

There can scarcely be any doubt that the Silkie is native to some of the Eastern or Asiatic countries. Very early writers mention it as the "woolly hen." Some of the Cochins that came from China in the early day were called Silkie Cochins. Their plumage was quite like the plumage of the Silkie fowl.

Another peculiarity of the Silkie fowl is the color of the face, comb and wattles, which is purplish. It is stated that the very dark color of skin and flesh prevails clear to the bone, and shows plainly when the fowl is cooked. The best of the Silkie Bantams have five toes.

BELGIAN BREEDS

IN his report* (July 15, 1893) to the State Department at Washington, John B. Osborn, United States Consul at Ghent, Belgium, says that with the exception of the Ardennes there is a fixity in the Belgian breeds, and that they "are not new nor artificial, but ancient and natural;

* Mentioned in American Fancier of December 16, 1893.

hence they are eminently stable, and the same type reproduces itself." The reproduction proves more than anything the purity or antiquity of breed, either among animals or birds, as exemplified by the continual degeneration of any new-made breed or that which is asserted to be one. "Approximate, practical purity is certainly obtained from all the Belgian breeds." Approximate will scarcely do, as impurity will assert itself again and again after it is deemed to be totally eradicated. "The Coucou of Malines is historically a cross, but to-day its characteristics are so fixed that it is practically a pure race. As a result of the extent to which its breeding has been carried, there is no kind in the world from which it would be possible to obtain yearly a larger number of subjects, all equally pure, and to all intents and purposes identical.

"This breed is an illustration of how quickly a cross may become fixed and stable. The introduction into Europe of the Cochin China dates from the Dublin exposition of 1844, when a male and female were exhibited by Queen Victoria."

The Coucou of Malines, whatever its origin, appears to me very like some of the early imported Shanghais, now called Cochins. Her Majesty's



ROSE-COMB BLACK BANTAM

From a photograph

were possibly real Cochins, not being like Shanghais in carriage and habit, nor were they feathered-legged. As far as I can see, the Coucou has already largely reverted to the Shanghai, and is wonderfully like some shown as Cuckoos in the early fifties. The United States Consul is strong again when he writes of the breeds as "sitters." "The Campine hen sits little, as is the case with a first-class egg-producer. The Brackets are good sitters, but do not sit often. The Coucous are excellent sitters; the tendency to incubate is very great. Each hen can hatch eighteen eggs."

THE CAMPINES

THESE appear to differ from the penciled Hamburg in but few respects; in fact, they are single-comb fowls that have the color, marking and general make-up of the penciled Hamburg. They are, however, deficient in the fine distinctive color outlines of the most perfect Hamburgs. The colors of the Silver variety are white marked across the feathers with black bars; the white is described as silvery white, the neck and hackle silvery white without bars. The Campines are accredited with producing both single and rose-comb specimens.

The Golden Campines are the same as silver variety, except that the color should be golden yellow in place of silver white in males, and golden yellow in females, with a darker yellow in body color in place of white in both sexes. This tallies with the old golden Mossies.

THE ARDENNES

THIS is a recognized breed about Seige, and it is said to resemble the wild *Bankiva* in size with more yellow in color, and they do not breed true. Although admitted to the continental expositions, I do not consider it possesses enough individuality to be included as a distinct breed.

THE BARBER DWARF OF ANTWERP

THESE are the Bearded Dwarfs of Antwerp, and are said to be a pure breed, similar to the Scotch Gray, though somewhat smaller than that breed at the present time. The color is either black or cuckoo, but occasionally they vary in color. They are about the size of the ordinary Bantam.

The cock has a double comb, red but sometimes dark; wattles small and regular in size; ear-lobe red; well-developed beard and cravat; tail, rather large, full and black, sometimes with light tip to the sickle feathers,

without any sign of red; shanks pinkish or light gray, and four toes. The hen is similar to the cock in general coloring, with smaller crest and flat, hen tail. In some respects these resemble what are known as the Burmese Bantams, with the exception that they have not feathered shanks nor feet, and not a few are very small.



BURMAH BANTAMS. 1896

Drawn by Mr. Weir



TOULOUSE GESE.

The property of MR. F. G. RAWSON.

THE DOMESTIC GOOSE *

THEODORE F. JAGER, Connecticut

"A team of twenty geese, a snow-white train,
Fed near the limpid lake on golden grain,
Amuse my pensive hours."—*Pope*.



HOW long the goose has been domesticated is not definitely known. Certainly in England, until the last few centuries, the duck was either wild or was reared from the eggs procured in the fens and elsewhere. In the opinion of Buffon, entertained also by Mr. Weir, there was and, in some cases there is now, much more difference between the tame goose and the wild goose than between the tame duck and the wild duck. The domesticity of the goose is less complete than that of the fowl in many ways. The goose not infrequently indulges in long or short flights. The number of eggs produced by the domestic goose in a given period is often less than those laid by the fowl in the same time. The fowl, in this respect, has passed its natural production. It is impossible to trace the time when the goose became even semi-domesticated. It was kept about the household in the time of Homer ("Odyssey," XV., 161, 174; XIX., 532, 536). The flesh of the goose was considered a dainty dish by the Greeks. Some writers assert that the fattened fowl mentioned in 1 Kings iv. 23 were geese, abounding as they do throughout Palestine. Herodotus (*i.e.* 37) speaks of the Egyptian priests being supplied with abundance of beef and goose. It is asserted that ganders were given a course of training in the Russian Capital for the "goose pot." This became a frequent source of amusement to the Petersburgians. Mr. Weir says it is possible that the ancient Britons may have kept and used their geese for amusement and not for food.

"If we inquire as to the origin of our breeds of geese," says Charles O. Flagg, in "Rhode Island Agricultural Experiment Station Report" for

* This chapter on geese has been entirely rewritten by Theodore F. Jager, of Connecticut, formerly of Pennsylvania, the well-known waterfowl judge and secretary of the Waterfowl Club of America.—EDITOR.

1897, "we find that there are one or two writers who contend that the wild prototype of the domestic goose does not now exist, and cite the camel as an analogous case. They give as a reason, therefore, the fact that the domestic goose is the only bird of its tribe systematically polygamous—all the known wild varieties mating in pairs for breeding; this applies even to the wild Canada goose now in domestication.

The large majority of authorities, however, is united in the belief that the common domestic goose is descended from the indigenous wild goose of the British Islands, known as the gray lag goose. The name is sometimes given as "gray-leg" or "grey-legged" goose, but lacks point as to the bird's plumage, while the legs are yellowish in color; at the same time the term lag had no reasonable explanation until in 1870 Professor Skeat suggested that the appellation was given because this goose lagged behind when other varieties of wild geese migrated, which was the case in early times.

Hewitt says: "My opinion is that the gray lag is probably the original stock from which all or at least most of our common varieties sprang, my idea being based on the fact that frequently we see the most unquestionable tendency to breed back, a bird having all (or nearly all) of the traits of character of the Gray Lag, even when the parent birds did not exhibit the slightest resemblance."

The Gray Lag goose is thus described: "The bill is pale, flesh-colored yellow, somewhat lighter than the legs; the nail, at its extremity, being white. The neck and back are ash-gray; wings, a light brown, the edges of the feathers running into a lighter tint, while the lesser wing-coverts are of bluish-gray in contrast to the darker tint of the wing generally, a peculiarity that often serves to distinguish this species in both adult and immature specimens; the breast and front of the neck light ash-gray, the former being lightly barred with transverse markings, tail coverts, and under part of body white, tail-feathers a dull-brown with a white margin. The 'curl' of the neck-feathers, so remarkable a feature in the domestic goose, is strongly marked in this species."

Darwin in his "Animals and Plants Under Domestication," Vol.I., page 304, says: "Although the domestic goose certainly differs somewhat from any wild species known, yet the amount of variation which it has undergone, as compared with that of most domestic animals, is singularly small. This fact can be partially accounted for by selection not having



Photograph by courtesy of the Rhode Island Experiment Station

A TRIO OF OLD EMBDENS
Bred by the Rhode Island Experiment Station

been taken much into account. Birds of all kinds, which present many distinct races, are valued as pets or ornaments. No one makes a pet of a goose; the name, indeed, in more languages than one, is a term of reproach. The goose is valued for its size and flavor, for the whiteness of its feathers, which adds to their value, and for its prolificness and tameness. In all these points the goose differs from the wild parent form, and these are the points which have been selected. Even in ancient times the Roman gourmands valued the liver of the white goose; and Pierre Belon, in 1555, speaks of two varieties, one of which was larger, more fecund, and of a better color than the other. He expressly states that good managers attended to the color of their goslings, so that they might know which to preserve and select for breeding."

Charles O. Flagg also considers white as evidently a color developed by domestication and selection, an opinion that all poultry-keepers of to-day will stand by.

"Geese have a long tenure of life, far exceeding any other domestic fowl in this respect. In former times it was not uncommon for the farmer's daughter on her wedding day to receive, among other gifts, a goose from

the old homestead, which she would take to her new home. Sometimes these geese were kept for many years, perhaps far beyond the life of the young lady to whom they were presented.

William Rankin,* a veteran goose breeder, cites the instance of a goose owned in Boxford, Massachusetts, which was the property of one family for 101 years, and was then killed by the kick of a horse. She had laid fifteen eggs and was sitting on them when a stray horse approached too near the nest; she rushed off to defend her eggs, seized the horse by the tail, and was killed by a kick from him.

Some goose-raisers say that geese seldom get too old to be good breeders, while occasionally one prefers geese from two to five years old. Barring accident, good geese may be profitably kept until twenty-five or more years old; ganders of the domestic varieties, however, are less useful after seven or eight years, and should be replaced with young birds. While the young gander often mates with three or four females, he usually has one particular favorite among the number, whose nest he guards more jealously than those of his other mates; and after some years he is liable to grow so inattentive to all but the favorite that many of the eggs produced prove to be infertile, and it is more economical to replace him with a younger bird. The Canada gander is, however, a pretty sure and valuable breeder for many years.

Ganders occasionally take very peculiar freaks, such as conceiving a violent attachment for some inanimate object, as a door, a stone, a cart-wheel, a plow, or something of a similar nature, when they will spend the greater part of their time sitting beside it or in its company. Morris relates a number of instances where ganders have become the inseparable companions of their masters, following them about the fields, on hunting expeditions, and into the streets of a town, like the most devoted dog. He also narrates how faithfully a gander discharged the self-imposed duty of guardian and guide to an old blind woman. Whenever she went to church, he led her by taking hold of her gown with his bill, and during the service he nipped the grass in the cemetery close by until she required his services to return home.

Geese are peculiar, in that both sexes are feathered exactly alike. Consequently, there is considerable difficulty in distinguishing ganders from geese, especially when young. Some experienced breeders determine

* Report of R. I. State Board of Agriculture, 1896, page 423.

the sexes by the difference in the voice, but that is a knowledge gained only by considerable acquaintance with geese. The form, size, length of neck, and size of the head, are some indication as they approach maturity, the gander being heavier, with a longer neck and larger head than the goose. A critical examination of each bird is a pretty sure method, but even this fails at times when made by a novice. On this subject Bailey says: "Much difficulty is often experienced in selecting the sexes, and although practised men are seldom mistaken, yet even they can lay down no rule that is easy to follow. Close examination may always be depended upon, but that is not easy to the uninitiated. There is a curious plan adopted in Cambridgeshire. All the geese are shut in a stable or a pig-stye; a small dog is then put in. It is said, and we believe with truth, the geese will all lift up their heads and go to the back of the place, while the ganders will lower and stretch out their necks, hissing all the time."

GEESE FLOCKS DRIVEN ON ROADS

In England, Daniel, in his "Rural Sports" (1810), records that "vast numbers of geese are driven annually to London from distant counties to supply the market, among them all the superannuated geese and ganders, which, by a long course of plucking, prove uncommonly tough and dry. In 1783, one drove of about nine thousand passed through Chelmsford; others of two or three thousand are common." The flocks are generally the largest about harvest time, when they travel from county to county in the south of England, being bought by the farmers to turn into the wheat, oats, rye, or barley stubble, and in a few weeks they are sufficiently fat for market.

In western Europe similar methods are practised in moving and selling geese, and it is not an uncommon sight to see flocks of several hundred head being driven from town to town. The writer has noticed that owners of such flocks secure pastures near the market places in order to give the birds the necessary green food. A small quantity of whole oats mixed with barley at night is the only grain the birds receive. Inquiries developed the statement that birds thus moved will remain in good condition even if driven eight miles each day. The only loss is sustained at the beginning, and then only until the geese have strengthened their leg muscles and become accustomed to their new mode of life.

EARLY HATCHING

It is best and most advantageous to breed goslings as early in the year as possible. This is sometimes promoted by the mildness of the winter or by a dry and genial spring, but more often when aided by proper and warm, clean goose-houses, generous diet, attention, and care of the breeding stock, during the later or winter months of the year preceding. This induces both earliness in laying and fertility, thus giving time for a second, and not infrequently even a third, brood—often the case with some of the “common” bred geese, but rarely if ever, with the large and “show”



Photograph by Thomas A. Barrett, 1904
“ON THE WARPATH”

varieties excepting the Toulouse. Such fecundity, however, in any particular strain renders it more valuable, though as a rule, late hatching is seldom very successful.

For the feeding of the stock at this season it is best to use grain of some kind, such as oats, wheat, barley (it is not advisable to use Indian corn—maize), which

are found to be of great value, each being varied or differently mixed day by day. Two bushels per goose is about the annual average allowed. If the weather is unusually cold, the grain is put into scalding water a short time to warm it. Ground oats with bran, cabbage, potatoes, beetroot, turnips, and beets boiled, is also good for a change of diet, with plenty of rough grass run, weather permitting.

Safe and quiet nesting-places must be in readiness, and the birds should be accustomed to them before the time of laying arrives; this generally becomes apparent by the goose's carrying about pieces of stick, straws, etc. She should then be coaxed and shut into one of the brooding places for an hour or so. This will probably be adopted by her to nest in, and, if the materials are there, she will doubtless place them in the required order. When laying commences, the eggs are produced in irregular succession to the number of ten, twelve, or sixteen, but seldom more. I once saw a goose with seventeen goslings that were all from

her own eggs. Some poultrymen take away the first few eggs, which they put under a hen, and this often induces the goose to lay a greater number, besides having two or more chances of the hatching being successful, instead of one. It is well also to set two birds at the same time, when possible, so that in the event of some of the eggs not being fertile, the two broods may be united. This must be done at night.

The nest should be so made that the eggs will not roll about when the goose passes into or from it. In Kent, Sussex, and Surrey, the huts are usually made with hazel or willow benders, twined into the form of a large beehive. These are turned over, and an opening left large enough to admit the goose easily, with a hollow space of at least twenty-four inches in diameter inside. Sometimes these nesting huts or baskets are placed in a shed, outhouse, or the scullery, for the first hatching.

While the goose sits, the gander generally watches near the door or opening, to guard her from any disturbance, intrusion of rodents, or accidents. It is not unusual to take each egg away as it is laid, and mark it and put it in some fresh hay until the sitting time; the dust of bran which is sometimes used is apt to fill the pores of the shell and therefore should be avoided, and I have found that this practice of removing the eggs occasionally delays the goose (especially a young one) from nesting and laying. The nest should be of oat-straw, or short, dry, and clean litter, though some prefer beaten ferns, which is better, it being a good insect preventive. An egg should be left in it unless the weather is cold.

THE SITTING OF THE GOOSE

The places where the geese are to sit, if out-of-doors, should be near water, yet dry, warm and well-exposed to the sun in the early part of the day. In hatching, sometimes the "gull" or gosling requires a longer time for incubation than at others. Extreme patience is not only necessary, but is of the utmost value.

The sitting goose should be fed regularly, and clean water should be placed near her, with fresh sand and gravel, though she rarely quits her nest for any length of time until the incubation is complete. Interfere as little as possible during the time of hatching, as the mother in the defense of her young, by her strength and resoluteness, too often destroys some of the eggs and unhatched young, as well as those free of the shell.

William Cobbett, writing of geese in 1828, says, in his blunt way: "They can be to advantage only where there are green commons, and there they are easily reared, live to a very great age, and are amongst the hardiest animals in the world." (There is much truth in this statement, though they may be reared with profit in other places besides "commons.") "If well kept, a goose will lay a hundred eggs in a year. The French put their eggs under large hens of common fowls, to each of which they give four or five eggs; or under turkeys, to which they give nine or ten goose eggs." In England goose eggs are now hatched by incubators and hens; when the latter are used, the best for the purpose are Langshans, Lincolnshire Buffs, Brahmas, half-bred Cochins, and the old Kent, Sussex, and Surrey fowls; these are all large and feathery—therefore, they possess much animal heat. They are excellent substitutes for hatching goose eggs. With these, seven eggs of the common geese is not an unusual number to set, four or five being the maximum of the larger kinds. If the weather is favorable and not cold, and the incubation goes on in sheltered or warm places, either of these numbers might be increased according to the size of the fowl and the goose eggs.

When hens are the incubators it is necessary to moisten the eggs daily. They should be freely sprinkled with tepid water when the hen is absent feeding. The last few days they may have more moisture, this representing artificially that of the goose returning to her nest after swimming. If this is not attended to, the shells not infrequently become so dry and hard that the gosling is unable to emancipate itself, and becomes shell-bound. When this occurs, sometimes a little help is needful to enable the gosling to emerge or to break the shell sufficiently to clear itself. This must be done very carefully and gently, and not until it is absolutely imperative, as only too often by premature interference injury of a fatal character occurs, and therefore artificial help should only be adopted as a last resource. The hen should have food at regular intervals.

HATCHING

The length of time necessary for hatching varies—the food, the house, the nest, the age of the parents, and the weather, having much to do with it. Some hatch in twenty-eight to twenty-nine days, while I have known one large goose to take thirty-two to thirty-four days, and then have good results. Leave the gulls in the nest for the first twenty-four

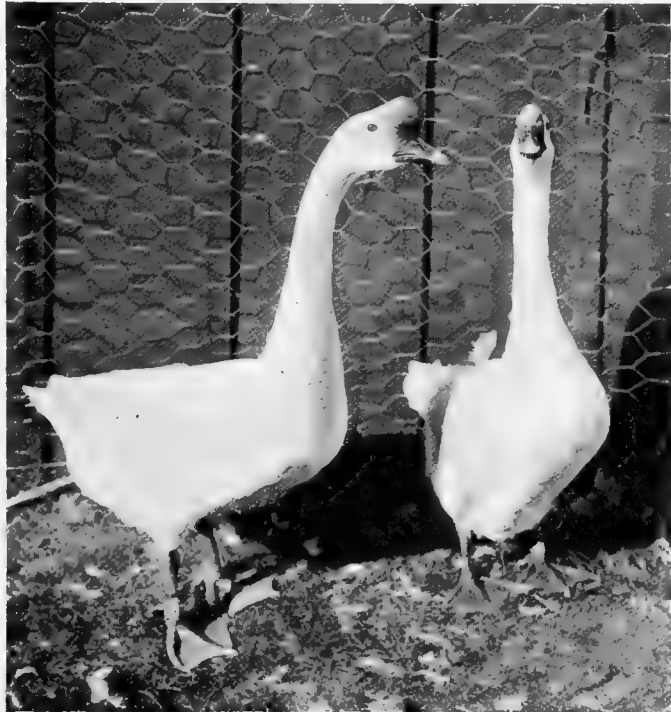
hours. They should be well protected from rats. These animals will come a long distance to carry off both young goslings and ducklings.

The first food should be bread-crumbs, oatmeal, and barley-meal, wet with milk and mixed until fine, grits, rice crushed small, wheat soaked, chopped clivers, fine grass and lettuce, with a little sand or grit added, and clean water to drink.

If any of the gulls or goslings must be taken out of the nest through unequal hatching, they should be put into a flannel or wool-lined basket, covered with

flannel and placed near a fire; if food is needed, give them new milk and water, chopped clivers, and, after a short time, a sod of grass to pluck at; but in all cases return them as quickly as possible to the goose, or she may reject them as strangers.

The grass around the nest huts should be mown a week to two before the hatching, as then the growth will be tender and young for the new-comers to pull and feed on. Besides this, chopped lettuce and onions and goose-grass or clivers, are useful to vary the food. The common nettle, a plant of the genus *Urtica*, is the best of all greens for goslings, and the successful goose culture of Russian Polanders is mainly attributable to the fact that one-third of the entire soft food mixture consists of finely chopped nettles moistened and softened with tepid water.



By courtesy of the Rhode Island Experiment Station

WHITE CHINA GEESE

Bred by Rhode Island Experiment Station

Though the goose hatches her eggs with great assiduity, it has been noted that the gander not infrequently assists her in the duty of incubation. Nor is his affection for his offspring when hatched less conspicuous, though it has escaped the observation of almost every naturalist. The demonstrations of joy manifested by the gander whenever he sees the young goslings eat are very remarkable; the bird expresses his satisfaction by raising his head with dignity, and trampling with his feet in a manner that makes him appear to be dancing. This dance continues for a considerable time, and if interrupted by any object, such as dogs, cats, or fowls (which he takes care to drive away from his young brood), he resumes it with renewed ardor.

REARING THE GOSLINGS

When the goslings are a few days or a week old, it is no uncommon thing in England to tether the old goose on some good feeding spot where shade can be had if the sun's rays prove too hot, as they not infrequently cause sudden death. The tethering prevents the old goose from wandering far, and thus tiring and exhausting her newly-hatched family. Should they be unable to follow her home and get housed for the night, they would be liable to attack from foxes and rats.

The number of goslings, ducks, chickens, young pheasants, etc., that are annually destroyed by rats, is almost incredible, whole broods being too often carried off in a night; on one occasion I lost sixteen, all of which were found dead in an unused rabbit warren some distance away, and there lay in a heap.

Much of this is owing to the wholesale destruction of the farmer's, gamekeeper's, and "poulterer's" greatest friend, the barn owl—the rat's greatest enemy, as is also the weasel, which seldom takes poultry if it can get rats and mice. I have seen stoats or weasels running about my coops, and have never lost a chick, duckling, or gosling.

THE GOOSE ON THE FARM

There is an old and well-known saying that "nothing can eat after a goose," meaning that it will feed or crop so close. In a meadow a horse can feed after a cow, and a sheep after a horse, but after a goose—nothing.

It is not generally known how very useful to pastures or grazing ground geese may prove, many farmers having an antipathy to them. I

will give a case in point. A relative of mine kept dairy cows. When these fed off a certain meadow or pasture, the butter was so acrid that no one would eat it; it was, therefore, unsaleable. On looking at the field, and finding it full of *Ranunculus bulbosus* and *acris*, I advised that twenty or thirty geese, or more, should be bought and turned in, knowing they were particularly partial to these plants. "What?" said my relative, "to foul the ground where I keep my cows! No, not one!" "Then," said I, "eat the butter as it is." On going again twelve months after, I heard the "clanging" of geese, and my relative said, "How about the butter?" "It is good," said I. "Yes, thanks to the geese who have 'fed out' the buttercups," added the converted farmer. And so it is where a number of geese have foraged, the grass comes juicy, close, and better, and stock will graze on it with avidity.

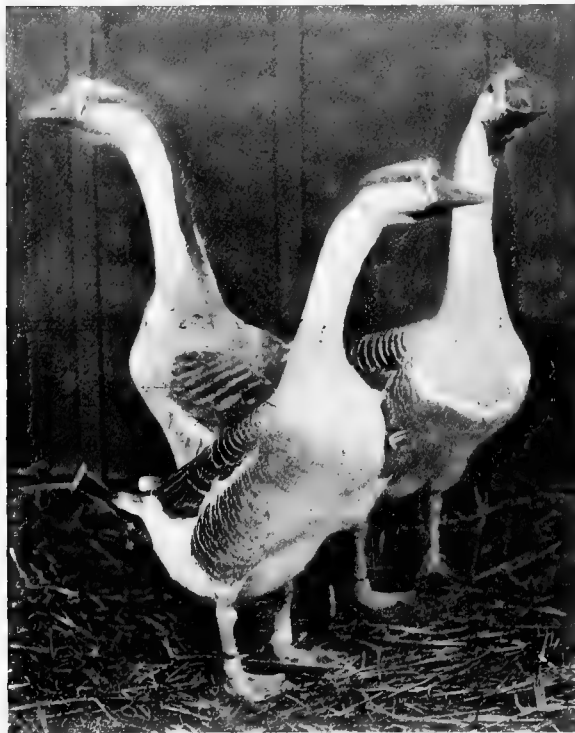
More than fifty years ago Mr. Hammond, of Penhurst, Kent, noted how closely the cattle fed on the pastures occupied by geese, and that they actually pushed aside "the soil" with their noses to feed off the grass on which it was lying, evidently showing their preference for the grass grown under such conditions. My own Jersey cows, which were kept for dairy purposes, fed off grass so benefited.

EMBDEN GESE

It is a well-known historical fact, and attested to by many that the white fronted, or, as we would say to-day, the white breasted goose, would occasionally throw an entirely white specimen, and as variety has always been the spice of life, our forefathers could not help giving this albino variety a good trial, and as subsequent years sustained the trials, the white goose had a solid footing. Remember our recent productions, the White Plymouth Rocks, for instance; future generations may be just as much in the dark about this now leading breed as we are to-day in regard to the Embden. As geese are naturally well fitted to stand colder climates, people compelled by force of circumstances to reside there, were not slow in adopting them. Among this class of people we find the north Germans and especially those inhabiting or living near the province of Westphalia, a part and parcel of the domain of that twentieth century war lord, William Hohenzollern. The city of Embden, being the main market for country produce of all kinds, soon established a reputation for the excellence of the white geese, which were sold there in large numbers. "Geese from Embden" were

synonymous with quality; and from "geese from Embden," the birds soon were known as "Embden geese"—and that is the long and the short of it.

How must we mate in order to get the best out of them? Select for a gander a bird that is from two to five years old, from parent stock known for its hardiness, activity, and general commendable breeding qualities;



Photograph by courtesy of the Rhode Island Experiment Station
YOUNG BROWN CHINA

a bird that has never been hampered with any surplus amount of fat, and that never was compelled to go hungry. Let the eyes be large, bright and light, and bright blue in color, indicating vigor and watchfulness.

The neck must be rather long and massive, without being clumsy. You like to see muscles there—strong and free from fat. The back must be slightly arched, and the breast round, deep, and full. The body should be square, very compact, and deep—in older specimens almost touching the ground. The bill should be orange in color,

(flesh-colored spots are objectionable), nicely rounded, and, considering the size of bird, delicately pointed. The shanks must be short and stout, in order to be able to carry the weight they are intended for; thighs strong and well-proportioned; toes straight; in short, the whole leg must indicate massiveness and weight-carrying characteristics. The plumage should be pure white.

The breeding gander should be watchful and observing. Beware of the dull members in selecting your breeders. Pick the bird that is anxious to chase the dog if he should dare to draw too near, and you have the

bird that will produce hatchable eggs for you. This much for the gander; now for the goose.

Let her be of not too closely related blood. Pick a clean bird—for cleanliness will indicate to you the healthiest and best breeding specimen. A weak or ailing bird will always be in need of an ablution. Bear this in mind. Read over the requirements as stated to be desirable for ganders, and you read the points a breeder ought to seek in his geese. If you can, pick the most compact—the geese with medium long necks and broad fronts; they are good ones to go with the ganders described above.

Regarding the time to mate up, I desire to say that fall or early winter is best, in fact, the only proper time; this will give the birds a chance to get acquainted with each other before the egg-laying season sets in. Pen the pair together in a field, and do not allow any other geese to come near until they are perfectly satisfied with each other. Whenever they are, they are immune against the temptations of others, and will remain loyal to the gander given them. Geese are profitable breeders up to their twelfth year; in fact, will lay more eggs as they get older, and these will be more fertile. The only drawback to keeping them that long is their tendency to become masters of all; they have no mercy on man, woman, or beast, and this abominable characteristic, coupled with great strength oftentimes causes their earlier walk to the butcher's bench. One gander is well able to take care of two or even three geese, especially if he is one, two, or three years younger than his mates.

A nice meadow, with a brooklet running through, is an ideal place for them to roam. Not all people have meadows. A field sown to rye the fall previous is the next best place. Provide water in some manner, that the birds may partake whenever inclined to do so. Galvanized iron pails, fastened with four or five sticks to the ground, so that the geese cannot upset same, are sufficient if filled once a day and kept in a shady place. They are not in actual need of water to swim in. If the vegetation is somewhat scarce, or the drain of producing eggs too much for the birds, feed them once a day with wheat and hulled oats. Do this at night; use V-shaped troughs, and keep them at the farthest place in the pasture, so that the birds when starting for their quarters may yet have a chance to hunt some choice morsels of grass.

The nests should be made in out of the way places; in old barrels, hidden under brush, and laid sidewise, or in covered boxes near the water,

where nature has grown willows, etc. In short, aim to have the laying places dark, and not in the way of constant traffic. The Embdens prefer to be left alone when laying. Fill the bottom of the nests with dry sand, and on top of this place plenty of dry straw cut in two-inch lengths—for they like to cover their eggs as soon as laid. Keep three or four nest eggs the size of hen's eggs in the nest, that the goose may not contract suspicion whenever she finds her place of concealment robbed of the genuine deposits. Care must be taken to gather the eggs as early as possible each day, as they are very susceptible to chilling. Keep them in a room the temperature of which is between 45 and 60 degrees and whose atmospheric condition is neither too dry nor too damp. Turn them every day until you have the required number to set under the—by this time—broody goose, or hens, or goose and hens. If it is early in the season, and you desire to keep the goose for another batch of eggs, break her of the sitting habit. This is easily accomplished if her favorite laying place is changed, or if she is disturbed three or four times while occupying it.

Goose eggs take thirty days to incubate. A hen, if she is large, is able to cover four, but three is more like the average capacity of a sitter. Be on the lookout when pipping time comes, as not all hens take kindly to the little yellow-downed fellows. Their eyes and bills seem to them too large. Watch the hens close, and give all the goslings to the true and gentle sitter; if she takes them without any fuss, no danger need be apprehended for the future.

Confine the hen and her brood for the first four or five days to a limited space well covered with choice and short grass, gradually enlarging the run as they get older. Three boards forming a triangle make a good runway for a starter. It is otherwise with a hen and goslings than with a hen and chicks; the goslings do the leading, and the old lady has to follow. It is her duty, pure and simple, to be near in case the charges feel like warming up. She is the protector and heat generator, nothing else. Feed four times daily till they are fourteen days old; after that feed three times. For the first eight days use nothing but stale bread, crumbled fine; then mix with it a little, very little, corn meal and bran, and moisten the whole slightly. Goslings do not like a sloppy food; it does not agree with them, so do not give it. Another good feed for a starter is one-third each of corn meal, middlings, and bran, baked in an oven. Add a little fine grit to the mixture, and heat it thoroughly; do not bake it to a crisp state.

Water must be given in one of the "doing the work fountains," now on the market, so that their down and feet do not come in contact with the wet element whenever they take a sip. Keep the goslings from taking a bath in a pool or wherever water has gathered; they enjoy it, but to their sorrow. Water to swim in must be withheld until they have their new coat of feathers.

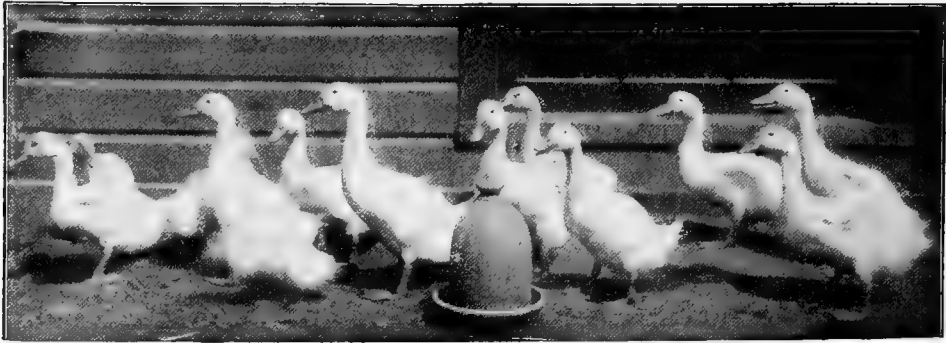
If a gosling has a broken wing, cut the broken joint off, bandage it, and soon all will be well again. The best and largest birds are sometimes affected in this way, and it is the presumption, therefore, that it was caused in the egg.

Grass is the main and most beneficial food; old and young alike need it; so do not prevent their roaming in search of it. Remember our western friend, Mrs. Walcott, who says: "If you wish to turn grass into green-backs, I say decidedly, raise geese." I might add, if you wish to combine the useful with the ornamental, raise "Embden geese." Wheat and oats for a morning, and cracked or whole corn for a night ration, may be given when the birds are large enough to swallow it.

I tried last year to raise the goslings in a brooder, and found it successful beyond expectation. I used one of the low-down-in-front brooders, so that the birds did not need to learn to climb the run-board, and had no trouble in having them walk in whenever they were cold. I raised all, and they did well. I have to smile when I think that one of the leading raisers once advised not to attempt the raising of geese artificially. In this age of progress and enlightenment, of study and research, you can do anything. We raise ducks without water, goslings without a natural mother, and, maybe, some time we shall all raise "poultry without a loss."

When and how must geese be marketed? Goslings, when eight to ten weeks old, should weigh from twelve to fifteen pounds; of course, this means that they must have been treated to the best of fattening food. Treat them as Rankin does his ducks when he wants to surprise the people in Boston, and you have hit the nail on the head. It does not pay to raise and hold them for the holidays, as the general farming populace bring down the price when delivering their old and mixed lots. Sell them when your birds are ready, and when the city folks return from abroad, from seaside and from mountain, and you will not fail to get the best prices.

To kill them, hang up each bird separately with a weight attached to its bill by a little wire hook. Draw a sharp knife diagonally across the



By courtesy Cyphers Incubator Company

THE VALUE OF ANIMAL FOOD (Plate I.)

Two pens of ducklings, containing an equal number of birds of the same age, were used in the experiment. This picture shows the surviving members of pen that was never fed any animal food in its grain ration. All ducklings poor with weakened constitution.

roof of the mouth, starting way back in the mouth, thereby severing the main artery, causing a clean bleeding and rapid death.

Steam, dry, or scald-pick, as preferred, and remove the down by rubbing a little powdered resin over it. Steam the fowl again, and the remaining down will come off. Lay the birds, back down, on clean boards to shape up, or in warm weather plunge them and leave them three or four hours in spring, or ice water. They are then ready for shipment. I cannot help quoting what Brown once remarked on the fattening processes of geese: "Like other fowls, geese may be brought by proper management to a great degree of fatness, but the period at which they are the fattest must be chosen in which to kill them, otherwise they will rapidly become lean again, and many of them will die."

Geese may be fattened at two different periods of their lives—in the young state, when they are termed "green geese," and after they have attained their full growth. The methods at each period are very nearly the same. Steamed potatoes with a gallon of buckwheat or ground oats to the bushel, mashed up with the potatoes, and given warm, are recommended. This, it is said, will render geese, cooped in a dark, quiet, cool place, fat enough in three weeks.

M. Parmentier gives very copious details of the French methods of fattening. The whole process, he says, consists in plucking the feathers from under the belly, in giving them abundance of food and drink, and in cooping them up more closely than is practised with common fowls, cleanliness and quiet being, above all, indispensable. The best time is in the month of November, or when the cold weather begins to set in; if it is longer

delayed the pairing season approaches, and prevents them from becoming fat.

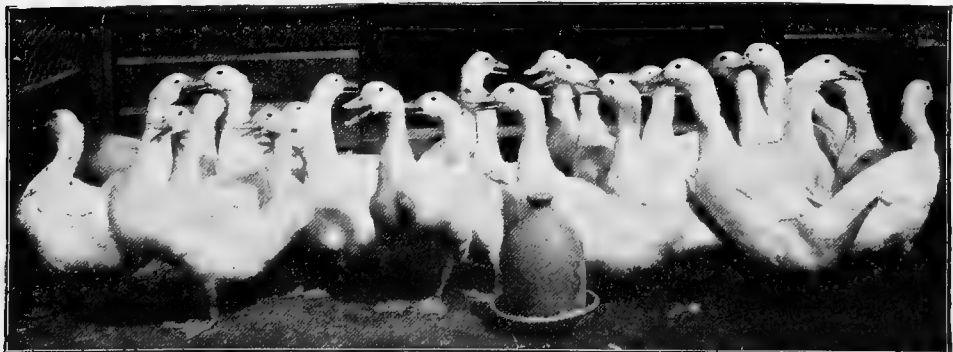
The Romans, who were fond of enlarged goose livers, were very careful to keep the birds quiet and in the dark. In some places on the continent, they nailed their feet to a board, burned out their eyes with a hot iron, and kept them before a large fire, allowing them, however, as much water as they chose to drink; but these barbarous practices are now seldom resorted to.

Wherever Embden geese have been tried once, they generally remain, for no other variety is able to come near them as to fattening and marketing characteristics.*

Mr. W. J. Haycroft eulogises Embdens in "Farming," Toronto, 1896, where he says: "Embden geese are the largest white geese in existence. Their plumage should be pure white, black or colored feathers being a disqualification. The color in my estimation gives them a superiority over the Toulouse or any other kind of geese that have colored feathers, for the Embdens when dressed for market do not show any pin feathers." Herein I quite agree with Mr. Haycroft as to the flesh presenting a brighter and, therefore, more marketable appearance, but to continue:

"Another feature," he says, "in their favor, as I think, is the absence of 'keel.' Their keel I consider a very useless appendage to either geese or ducks." (It is to be supposed that he means by this that the keel of the sternum or breastbone does not project beyond the flesh as it does in

*The above is taken from my article on Embden geese in *Farm Poultry*, 1901.—T. F. J.



By courtesy Cyphers Incubator Co.

THE VALUE OF ANIMAL FOOD (Plate II.)

Pen of ducklings fed on animal food, all birds strong and active

some breeds. All geese, more or less, must have a "keel.") "They are hardy, they mature early, and are good layers; while they do not lay so many eggs as the Toulouse, they lay a good sitting and at once sit. This is one of their general characteristics, and they are mostly good and steady sitters.

"For quantity and quality of feathers, the Embden among geese are, as the Pekin among ducks, the leaders.

"I used to think that the Toulouse were the heaviest variety of geese, but experience has taught me differently, for a pair of young Embden ganders which I killed on the 16th of December, dressed, weighed forty-one and a half pounds. So much in favor of keelless geese."

Embdens are very quiet, and require no more attendance than other geese, and geese I consider the easiest sort of fowl to raise.

With Mr. Haycroft's article there are some very excellent portraits of three of his birds, and they appear to be of a very fine strain, one point being particularly noticeable—the absence of the dewlap under the bill, and of the large abdominal fat folds that now so often disfigure our Embdens of late years. In form they are particularly deep and square, the English breed being somewhat longer.

My own Embdens I had from Mr. J. K. Fowler, of Aylesbury, Mr. F. G. S. Rawson, of Thorpe, near Halifax, and others, the gander from the latter being tall and long in the neck, while the goose from Mr. J. K. Fowler was short and square. This proved to be a "happy" combination, and some of the produce were startlingly large, one goose killed at Michaelmas weighing nearly twenty-two pounds, and a young gander at a year and nine months of age, weighing while alive, twenty-seven pounds five cunces, and this without being penned and fed to fatten.

The writer agrees with Mr. Weir and Mr. Haycroft, as well as all breeders knowing the true Embdens, that entire absence of keel and dewlap must be demanded of all breeding fowls and show specimens. An animated discussion with Mr. McGrew and others during the past year, while viewing Embden geese on exhibition at the Allentown, Pa., and other fairs, developed the fact that a minority of American breeders are fast losing the true and only Embden type. Whenever birds with loose skin are shown, they should under any and all circumstances be out-classed by tight-meated birds, as the abdominal pouch, dewlap and general loose outline is a Toulouse characteristic that must not be tolerated on

an Embden. Opinions seem to differ as to how low down the body is allowed to reach, some preferring it even to touch the ground. My experience proves, that the medium low bird is the best market producer and last, but not least, the only true Embden in type.

TOULOUSE GEES

The Toulouse goose is, as the name imports, a true French breed, and it is just possible that it may be of different origin from that of the English goose, which is said to be a domesticated variety of the grey-lag wild goose (*Anser ferus*). It is decidedly of a different conformation when pure bred; having kept both it and the Embden, I have come to the conclusion that it is not of the same ancestry. Although of a dark grey with white belly, etc., it by no means infrequently has white feathers around the base of the bill like the markings of the wild white-fronted goose (*Anser albifrons*). This, combined with other variations, tends, in my opinion, to show that not only has it a different parentage, but that it is a domesticated white-fronted goose, enlarged and somewhat differentiated by selection and other conditions of treatment. But be this as it may, it is in every way an improvement on the old grey goose whose feathers winged the flying shafts of the bygone time English, French, and other bowmen.

It has long been distinguished in France as possessing rare excellence in fattening and other qualities, being profitable and preëminently hard and well-fleshed, and, therefore, a good marketable variety.

In a "Treatise on the Breeding and Fattening of Poultry," translated from the French in 1810 (page 32), this variety is thus spoken of:

"It is in Upper Languedoc especially that geese breed well, and are as large as swans; their distinctive mark is in having under the belly a lump of fat, which hangs on the ground the moment these birds walk. The fat is not very prominent until the month of October; it increases as the bird gets plump, and is called in the language of the country *panouille*. Proceeding from Toulouse up toward Pau and Bayonne, this lump diminishes, the species become feeble and inferior, but in return they are better and more delicate when potted, doubtless owing to the salt used, which comes from the salt fountain of Salies, in Béarn.

"Two species of the tame goose are known, the large and the small. The former is almost always reared, as it is the more profitable, especially the white one, for those whose plumage changes color are generally reck-

oned of a bad race, but it would be possible to find among the wild species ganders which would couple with the tame geese, whence would result a sort of mixed breed whose flesh would, perhaps, be more delicate than that of the common goose. It appears that, in Spain, where the rivers and lakes are everywhere covered with wild ducks and geese, these crossings have been attended with great success."

As will be seen from this record, written as it was in 1810, the Toulouse was not at that period universally grey in color as it is now required to be, and as the early importations to this country were, and as it is advised. Is it not possible that the Toulouse goose at that time might have been crossed with the white-fronted wild goose? There is a possibility that it was one, at least, of its ancestors, and, as I have before mentioned, that white feathers about the base of the bill are not uncommon, no Toulouse goose at the present time being of other colors—it may be a case of atavism.

The thirteenth Earl of Derby was the first to discover, and to import to England, some of the breed under the name of the Mediterranean as far back as the forties of the last century; also Messrs. Baker, of Beaufort Street, Chelsea, and Mr. Nolan, of Dublin: the latter sent a pair of fine birds to the poultry show held by the Zoölogical Society in their gardens in 1845, at which time I made a drawing of them which appeared in the *Illustrated London News* on June 21, 1845. These birds were awarded the prizes, and were then known as the Mediterranean, Pyrenean, or Toulouse, and were, no doubt, a very valuable addition to our domestic poultry. They were sold to Lord Saye and Sele. In 1846 Mr. Nolan again forwarded a pair for exhibition, and they also took the prize, and were afterward sold to His Highness Ibrahim Pasha and sent to Egypt. Mr. J. J. Nolan, writing of the breed in 1850, says: "With the exception of their great size, they resemble our own common domestic geese," as, indeed, these did to a greater degree than the more modern, loose-skinned, heavily dewlapped bird. He says: "But they have a much more mild and easy disposition, and, what is more important to a farmer, they never pull the stacks in a haggard." With this last opinion I do not agree, finding them precisely as destructive in their habits as the Embden and the common goose.

"Their prevailing color is a blue-grey, marked with brown bars, the head, neck (to the beginning of the breast), and the back of the neck, as far as the shoulders, of a dark-brown, the breast steely-blue, the belly

white, as also the under surface of the tail; the bill is of orange red, and the feet flesh-colored." He might have added that the sides of the breast just over the legs are marked with strong color, almost black, while the tips of the feathers are a very light grey. "The London Zoölogical Society have pronounced them to be the unmixed descendants of the 'grey-lag'" (with this I differ). "These birds were successful whenever shown in Ireland. It may be well to remark that the abdominal pouch, which in other geese is an indication of old age, exists in these from the shell. Their flesh



Photograph by Prof. W. G. Johnson, 1904

A BUNCH OF TOULOUSE GEESE ON A FLORIDA FARM

Bred and owned by F. A. Lewter

is tender and well-flavored." This coincides with the description already given in 1809-10. Mr. J. J. Nolan advocates a cross with the Embdens; with this I entirely disagree, as did also Mr. John Baily, of London. It is better to keep the two separate, as each has its distinct advantages, and pure breeds are always superior and, in the end, more certain.

Although the Toulouse goose is said to be short-necked and square, yet there are variations of form in this as in the Embden. One of the tallest ganders I have seen was a Toulouse in the possession of Mr. Charles Leney, of Hildenborough, Kent (1887). This, with either of two geese that he had when shown as a pair, was almost a certain prize-winner, the weight of the gander being "said" to be between five and six and thirty

pounds, and both geese over thirty. This large size had been arrived at from high and generous feeding, and many years of careful selection of the breeding stock, or what is usually denominated as "store geese."

Although a goose of this breed from Mr. Charles Leney was mated with my own, I never could succeed in rearing any goslings equal in size to those of the Embden, nor could I discover any difference in hardihood between the two varieties; neither was it apparent that the Toulouse was a non-sitter, mine being exactly the same in their habits as their white congeners.

True it is that they are somewhat more numerous egg-producers, but even in this they differed considerably, some being far better than others; this was also the case with those belonging to a neighboring farmer.

By some it is contended that the Toulouse goose originated in Spain and is there called the Mediterranean; but, however this may be, Toulouse is now the accepted name under which they are recognized and shown.

The gulls or goslings of the Toulouse are a dull-grey when first hatched, but after a few days become of a darker and deeper brownish hue. It is a remarkable thing that the skin on them hangs loosely, and looks as if it were a size too large for their bodies. This peculiarity does not disappear as they get older, but continues with the growth to the adult bird. This bagginess is peculiar to the breed, and is now much more marked than in either of those of the Earl of Derby, in 1846-7, or the exhibits of Mr. Nolan at the Zoölogical Society's Gardens, neither of which showed any pendant-like skin under the bill.

It has been affirmed that the goslings grow faster than those of the white variety, but under the same treatment the difference, if any, to me was not appreciable. But it is certain, that the flesh is darker, and the grey stubbs make them less marketable when sold as green geese, with some of the down left on the breast and legs, as is the custom. As to weight, years ago the Toulouse was the heavier bird, but now there is little or no difference between the two colors, while sometimes it is in favor of the white. In the latter the feathers are of more value. Having kept both, I am in favor of the Embden.

Although the common and accepted color of the Toulouse is a blue-grey ground with richly colored darker grey and black markings, there are sometimes curious and beautiful "sports." I have seen more than one xanthus variety in which the blue was eliminated, leaving only a reddish-

brown, yellowish-red, and buff color in its place; and in another case all of the dark colors were substituted by light and dark bluish-ash color, the white in each case remaining as in the ordinary birds. Both of the above were very beautiful, and, as varieties, desirable.

Is it correct to have dewlap? Is it a disqualification or is it irrelevant? We believe all ganders more than four years old should be allowed dewlap, as it is only a sign of age. Let us not cut a bird for characteristics that are mile-stones for the age and the usefulness of the same. All natural phenomena should be allowed, as long as they remain in conservative lines. *The American Fancier* sometime ago published an article on this subject from the pen of L. van der Snicket in *Chasse et Pêche*:

"We have just received a new number of the journal *Le Bulletin avicole de l'Association des Éleveurs de France*, and read with pleasure a second article on the subject of the dewlap of the Toulouse goose by M. des Essarts. His first article made some commotion among breeders. *L'Éleveur* reproduced the article in full, with the following preliminary note:

" 'It is evident the dewlap has been imposed on us as characteristic of the Toulouse goose by rogues desirous of getting rid of their old birds, but everybody in the North has not been convinced, as will be shown by the following article:

" ' "This," says M. des Essarts, "is the absolute confirmation of my views, and I have only to thank M. P. Megnon (Editor, *L'Éleveur*) for giving me the support of his great authority. The second journal which has been so good as to extol my views with regard to the dewlap of the Toulouse goose is the famous Belgian breeders' journal, *Chasse et Pêche*, etc."

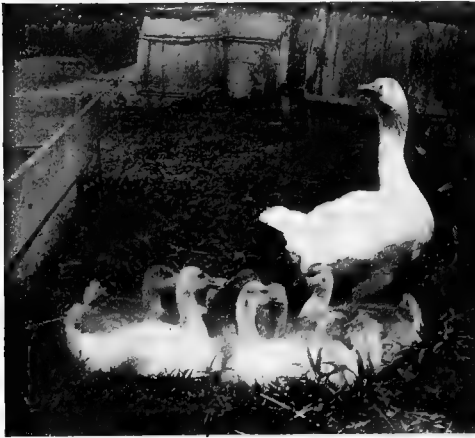
" 'It is really too good of M. des Essarts to attribute to us more science and experience than we possess, since we must confess our ignorance, and conclude that the question of the dewlap can only be decided by practical experience.

" 'That the dewlap is a sign of old age we willingly admit, but large size is also a sign of old age amongst birds; nevertheless, large size is no defect amongst young birds; on the contrary it is a most recherché quality.

" 'In his account of the poultry at the last Smithfield show, M. de Loverdo, as to whose competence there can be no doubt, wrote, "as to

Toulouse geese, their general condition is perfect; English geese can not be compared with them." "It appears to me," says M. des Essarts, "that such judgment is unquestionable." We have weighed the best birds in company with M. de Loverdo, but, unfortunately, we have not the results with us. However, our impression was that the English geese and poultry in general were larger than, but not so fine as the foreigners.

"The average weight of a Toulouse gander of this year, killed and plucked, is somewhere between nine and ten kilos. Exceptionally fine birds exceed twelve kilos. It is not always in the largest birds that the liver is the most developed (one still ignores the laws which follow the fatty degeneration of this organ).



By courtesy of the Rhode Island Experiment Station
"ON GUARD"

Its average weight is about 950 grammes, but it sometimes weighs 1 kilo, 200 grammes. The Toulouse goose is the foundation of the kitchen of the southwest. A correspondent says that, if Toulouse geese have no dewlap, it is bad for them. The Toulouse goose has a bag of fat, and the larger and more elastic this bag is, the better for the bird. When the skin hangs under the bill and over the neck like a bib, the bird will more readily fatten.

"The senior of all French aviculturists, M. Ernest Lemoine, of Crosne (Seine-et-Oise), wrote in 1886: "The amateur who tries to make you believe that the Toulouse goose ought to have a glandulous swelling under the head is surely an amateur who has geese of this kind for sale. The glandulous swelling ought not to exist among the pure Toulouse breed. They have never had a glandulous swelling, only a simple hanging fold of the skin. This is not like a bib, but is an even fin from under the beak between the two jaws. An emerited amateur for some time past has bred geese of which the bib only began to show toward the age of four years and became larger every year."

"A more experienced amateur, M. Firmin de Smet, breeds Siam and Guinea geese, of which the dewlap is developed from the first year.'"

AFRICAN GEESE

Samuel Cushman's article in the *Reliable Poultry Journal* gives a precise statement of this excellent goose. It is produced here in detail: "African geese are as large as most Embden and Toulouse geese, and are more prolific and profitable. They lay the largest eggs of all varieties, and as many of them as the best Toulouse. Goslings from old Africans are the strongest and hardiest of all, and after the first two days one is rarely lost except by accident. They grow faster and larger up to the time they should be marketed. Africans have large size and great strength without the sluggishness of the other large varieties, and are very docile compared with the Chinese Geese. The ganders are active and sure breeders and mate promptly with any geese. They can be mated with five times as many geese as can a Toulouse gander, and twice as many as an Embden gander. The females are good sitters and mothers, and therefore do not lay as steadily as the Toulouse. It takes a few days to break them up and to get them to laying again.

"A drawback with this breed (so highly prized by eastern market goose raisers) is its dark bill and skin, and the fact that it is harder to pick than are the Embdens and Toulouse. Young African goslings pick easily in summer, but are harder to pluck in the fall and winter, although they are not as difficult to prepare for market as the Brown or White Chinese. You can raise many more African than Embden goslings and grow them larger early in the season; but they do not look as well nor sell as well when dressed as the white goslings with yellow bills.

"Africans, we are led to believe, were brought to this country before the Brown and White Chinese varieties. They are no newly-made variety, as some suppose. Old poultry books published back in 1840, illustrated and described them as a variety distinct from the Brown Chinese, and gave their weight, shape, and markings as we have them to-day. A reprint of the goose illustrations and matter relating to them from some of these old books would be a benefit to the public. Africans were at first called India, Guinea, and African geese, because it was understood they were brought from there by the whalers and other ships engaged in the trade with Asia and Africa, being thus brought into several New England ports. Probably the modern Brown and White Chinese came by way of England. Although the public interested in poultry have known little about Africans

all these years, owing to lack of publicity given them in modern poultry literature, and although they have rarely been seen at poultry exhibitions, they have been so highly valued in the greatest goose-raising sections of the east for crossing for market goslings, that they have been maintained in all their purity by a few breeders.

"They seem to have been unknown in England, although they have, as with us, Brown and White Chinese. The Brown variety with them is bred with a dewlap, but it is small in size, like our Brown Chinese. Spanish ganders are sometimes mentioned by English writers as having been used for crossing, for table or market purposes. Lewis Wright in his latest work reproduces an illustration of American-bred Africans (drawn by George Howard from photo engraving from Rhode Island Agricultural Experiment Report), and uses it to illustrate his description of English Brown Chinese geese.

"Africans are large geese, while the Chinese are more on the bantam order. Africans have the great reserve power and docility of the large breeds, and are as smart and intelligent and stirring as any of the smaller varieties. They do not easily get overfat. Although Africans resemble Brown Chinese in some respects, both having similar markings and black and knobbed bills, the shape of knob bill and head is different. The dark markings in Africans are lighter, and the Brown Chinese have more dark in the plumage altogether. Where the stripe on the back of the neck of a Brown Chinese is a rich dark-brown, that on the African is a lighter brown, inclining to gray. The Brown Chinese is a creamy, light-brown or white where the African is gray or light-drab. The bars on wings and back are more regular and distinct, and present greater contrast in the African. Bright, clear colors are preferred to muddy or dingy tints.

"The knob of the Brown Chinese is like a round ball resting on the bill and projecting forward from under the feathers of the top of the head. The knob of an African is like a half-globe or dome, broader and larger in proportion, resting at the base of bill and projecting upward above the top of the head. These knobs in either variety should be free from orange or flesh-color. Their eyes are rich hazel in color. The Africans' bills are thicker, stouter, and more curved, and their heads are wider and deeper than those of the Brown Chinese and they have heavier jaws. A line of white feathers clean cut and distinct, close to the base of the bill, is

considered a desirable feature in show birds.* Their necks are shorter, thicker and stronger, and are less curved. Their voice is many times as strong, showing great chest power; not shrill, sharp, and rasping, but more on the fog-horn or ocean steamship whistle order, the sound being more mellow, and rich and pleasant to hear.

"Africans carry their bodies almost level like Embdens and Toulouse, but they are longer and very wide and deep, especially in chest. They have a steady, dignified and noble walk and carriage, and show much grace in their movements. They stand higher from the ground than Embdens or Toulouse, and have very stout, orange-red shanks with black nails. Brown Chinese have a very different carriage. Their whole body is slenderer; their bill straighter, the neck thinner, the feet and legs smaller and darker in color, and the neck more arched. Their body is carried upright, almost as if it would go over backward, in somewhat of a "cake-walk" attitude. They are more hurried and nervous in their movements. Young African ganders weigh fifteen to seventeen pounds and the females eleven to sixteen pounds the first season, and some several pounds over. They get their full weight when about three years old. Ganders weighing twenty to twenty-four pounds are not unusual and geese run from sixteen to nineteen pounds each."

HISTORY OF AFRICAN GEESSE †

A veteran goose breeder, William Rankin, says of this breed: "I think the most perfect goose is the pure-bred African, as they lay more eggs, mature earlier and make more pounds of flesh in the same time. They are very vigorous and hardy, and you will nearly always raise all you hatch." African geese have a more erect carriage than either the Toulouse or Embdens, but not so erect as the modern Brown and White Chinas. The body should be large and long, well-developed through the shoulders and breast; the neck moderately long, of fair size and gracefully curved, head rather large, with moderately long, stout bill, and a knob or protuberance at the base of the upper mandible. There should be a heavy dewlap

* We cannot agree with this statement. The American Standard of Perfection demands an all-gray head, and the fact that many birds have a line of white feathers close to the base of the bill proves nothing but the impurity of breeding of the specimen thus shown. All knowing judges will cut a bird for white feathers on any part of body; light gray being the lightest tint required for neck and underparts of body.—T.F.J.

† The Rhode Island Experiment Station Report has been used liberally in the preparation of this section.—EDITOR.

or pendant fold of skin under the throat. The bill and knob should be black, and the eyes hazel or brown. The color of the plumage of the back, wings and tail is dark-gray, shading to light-gray on the breast and under parts of the body. A dark-brown stripe extends from the head down the back of the neck. Legs, dark-orange in color, with black claws. The notes of this goose resemble those of the Brown and White China much more than those of the Toulouse and Embden breeds.

The utmost confusion prevails in poultry literature regarding the name of this variety. Saunders says, "The principal breeds of geese are the China goose, Toulouse goose, and the Bremen or Embden goose." Under the name of China goose, he gives a fairly good but very brief description of the African goose. It is true that his description might apply to the Brown China, but he makes no mention of a white breed under "China."

Bement, under the heading of Guinea or African Goose, says: "This is the largest of the goose tribe which has fallen under our notice; it is the size of the swan, and it often weighs more than twenty-five pounds. We have now in our possession one pair . . . which will weigh, in common, ordinary condition, more than twenty pounds each. We once owned a gander that weighed twenty-four pounds." His description of this goose, colors of plumage, knob and dewlap, agrees well with that of the African goose of the present time. He says, "Africa, and perhaps the other southern countries of the old continent, seems to be their native abode," and quotes authorities to prove the identity of the so-called Siberian, Russian or Muscovy goose with the Guinea or African goose. The above, published in 1845, is, as far as we can learn, the first application of the name African to this goose.

Kerr has a chapter on the China goose, accompanied by an excellent cut of the African goose, entitled "The Hong Kong, or China goose," which says: "Of this variety three beautiful specimens were exhibited at the late agricultural show held in the county of Philadelphia (Pennsylvania)." . . . In introducing this variety to the reader, Mr. Dixon says: "There is a venerable joke about a Spanish Don who knocked at a cottage door to ask a night's lodging. 'Who's there? What do you want?' said the inmates. 'Don Juan José Pedro Antonio Alonzo Carlos Geronimo, etc., wants to sleep here to-night.' 'Get along with you,' was the reply, 'how should we find room here for so many fellows?'

"The China goose is in the same position as the Spanish Don. It has names enough to fill a menagerie. China goose, knob goose, Hong Kong goose, Asiatic goose, swan goose, Chinese swan (*Cygnus sinensis*, Cuvier), Guinea goose, Spanish goose, Polish goose, *Anas* and *Anser cygnoides*, Muscovy goose, and probably more beside." (We can add to the list, knobbed goose, African goose and Indian goose.)

"Confusion, therefore, and perplexity are the certain lot of whosoever attempts to trace this bird in our books of natural history. Its place of birth has excluded it from all monographs or limited ornithologies.

In very few systematic

works is it mentioned

at all, which is

remarkable of a

bird so striking

in its appear-

ance. There

is every

reason to be-

lieve it must

have been

domesti-

cated for a

long period.

The uncer-

tainty that

has existed

as to its

correct name,

and really

native country,

may be one

cause of this.

Like the Jews

or the Gypsies,

it has not been

allowed to

claim a place

among the

natives of any

one region, and, like many others furnished with a variety of aliases,

it ends by being altogether excluded from society. The older writers

call it the Guinea goose, for the excellent reason, as Willoughby hints,

that in his time (1635-1672) it was the fashion to apply the epithet

'Guinea' to everything of foreign and uncertain origin."

Kerr adds, in a footnote, "The epithet 'Indian' has also answered the same accommodating purpose." After stating the fact that Cuvier

calls this goose and the Canada goose true swans, Dixon continues: "A

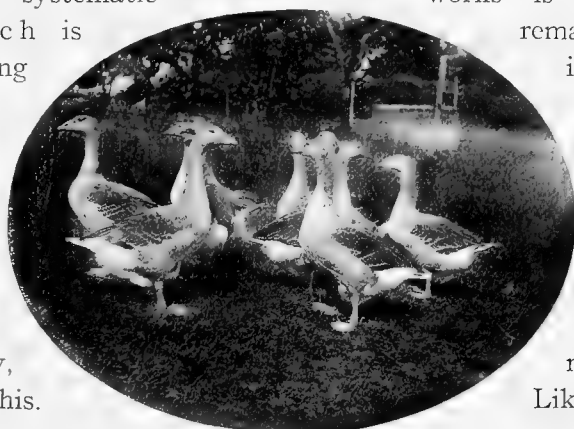
goose, however, it decidedly is, as is clear from its terrestrial habits, its

powerful bill, its thorny tongue and its diet of grass. And, therefore,

we have determined to call it the China goose, concluding that Cuvier is

right about its home, and other authors about its goosehood."

One of the best authorities upon poultry subjects in England, in a



Photograph by courtesy of "Farm Poultry"
TOULOUSE GOSLINGS

recent work, after naming and describing Toulouse and Embden geese, names the "Chinese," and says:

"This variety is not very common in this country, and, though classed with geese, it is really more like a swan. It is known as the *Oie de Guinea* (Guinea Goose), of Buffon, and is distinguished especially by its long neck, and a large knob at the base of the bill. From this latter point it has been called the knobbed goose, and also the Hong Kong, from the place of its origin. Although first brought over from China, it is well-known in many parts of both the continents of Asia and Africa. It is a very prolific layer, and the quality of the flesh is regarded as superior to that of the common goose.

"The semi-swanlike appearance gives it a great advantage over the ordinary goose, which is not to be regarded as highly ornamental, but it is smaller in body. In color, the bill and legs are orange, the knob being black. The usual color is a grayish-brown on the back and upper parts, passing to white or whitish gray on the abdomen. The fore part of the neck and breast are a yellowish gray, and a very dark-brown stripe runs down the back of the head to the body. Some birds are white, with a pale stripe, but in all specimens of the Chinese goose this stripe is present. Another important point must not be omitted; namely, the folded skin attached to the throat, forming a kind of dewlap. As an economic breed this can be recommended, though neither the eggs nor the birds are as large as in the common goose." Mr. Brown does not mention the African goose, and it evidently has not been bred as a variety distinct from the Chinese, as in the United States. The reader will notice that the dewlap is made an important characteristic of the Chinese geese in England, while in this country it applies to the African, and not to the Chinese varieties.

Another English authority, writing upon the breeding of geese, describes only two breeds—Toulouse and Embden—but in an article upon "Breeding Geese for the Table or Market Purposes Only," says, "Spanish or Canadian ganders may be used for crossing with other varieties, and such crosses are generally very successful." This mention of the "Spanish" goose is the only reference he makes to the English relative of our African goose. As before stated, in 1845 is the first record we find of the use of the name African, although under numerous other names the goose had long been bred, probably to about the same type. Felch, in a personal letter, writes: "The African goose, I believe, has been credited to Africa

—the region near Zanzibar. It is a goose as heavy as the Embden or Toulouse; has a shorter, thicker neck, and darker gray color than the Brown China; knob and bill are black, with a prominent dewlap—a kind of feathered throat wattle; and a voice harsher and heavier than all others. My own belief is that it is a species indigenous to Africa. We cannot say it is like the Brown Chinas, or the domestic goose of India, all of which have longer and more swan-like necks, while the African weighs all of six pounds more than the Chinas. I think that they were imported to this country long before the White and Brown Chinas were received.”

A breeder of this variety, with more than thirty years' experience, writes that he first knew of them in 1859, when some were landed at Essex, Massachusetts. What he learned from persons who had them led him to believe that they came from Hindustan, and he called them India geese, and all pure-bred ones were known by that name. He next found geese landed by a Provincetown (Massachusetts) vessel, which were said to have come from Africa. These birds were scattered about the section west of Boston, and were called Africans, and exhibited by that name. In 1879 they were exhibited under both names, but the name African being adopted about that time in the American Standard of Perfection, the breed has been known by that name ever since. He finds very few pure-bred Africans in Rhode Island, many specimens showing admixture of Brown China blood. He has, since 1859, known the African or India goose to be a distinct variety, with a fixed type and breeding, without particular variation.

The American Standard of Perfection requires that the adult African gander shall weigh, at least, twenty pounds, and the goose, eighteen pounds, the young gander, sixteen pounds, and the young goose, fourteen pounds. This is exactly four pounds heavier in each instance than is required by the standard for either Brown or White China geese. As to their laying qualities, doubtless considerable difference exists between different families of the breed. At the Rhode Island station the average egg production has been less than in the case of either of the other four breeds.

For three successive seasons—care and feeding being the same in each case—Mr. William Rankin, who has bred African geese for many years, kept careful records of the production of eggs by the individuals of his flock, and always preserved for breeding purposes the best specimens

from his most prolific geese whenever any birds were required to replenish his flock, has found them better layers than either Toulouse or Embdens.



Photograph by Theo. F. Jager
FLOCK OF YOUNG GEESSE AFTER A SWIM
Bred by Mr. Jager

Under date of February 17, 1898, he writes in reply to an inquiry: "In 1888 I kept twelve African geese, and the flock averaged 37.42 eggs each. I also kept, the same year, six Toulouse geese which averaged 30.68 eggs each, while ten Embdens, kept the same season, averaged 28.12 eggs per goose. I have

since done better with the Embden; I think one goose laid 68 eggs in the season of 1895. The product of geese depends largely upon their liberty and food. My African average has always been the largest." In regard to the development of special qualities by breeding, Mr. Rankin says:

"Thirty years ago I rarely had a bird that would lay more than thirty eggs; now they often lay sixty, and occasionally more. . . . When I was a boy my father used to say, 'If you raise ten goslings from a goose, you are all right. Now we feel that we ought to raise from twenty-five to thirty.'"

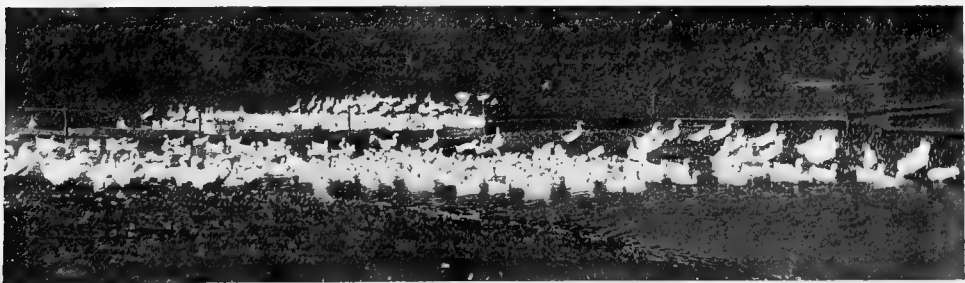
THE CHINESE, OR SWAN GOOSE

This is also known as the Spanish, Guinea, Cape, and I have seen some imported from Japan that did not appear to have any distinctive differences. It is generally more than three feet in length, and the size varies according to the locality in which they are bred. The smallest coming under my immediate observation were those from Japan, while those from Spain were the largest. In carriage or deportment it differs widely from the goose tribe in general, being upright and stately, sometimes exceedingly so, with its long crane-like neck erected to the utmost.

It differs also from the ordinary goose in having a knob at the base of the upper mandible, and a pouch-like appendage almost devoid of feathers, something like a wattle, under the lower mandible and at the top of the throat. In some this appendage is so much larger than in others that it is almost a deformity. There is a white line, extending from the ending of the mouth along the base of the bill, and continued behind the frontal knob. This knob is black, while the color below and nearly surrounding it is orange; irides reddish-brown; a dark-brown, or nearly black, stripe runs down the hinder part of the neck, from the occipital bone to the back; the fore part of the neck and the breast are of a yellowish-dun brown; the back and all the upper parts, brownish-grey, edged with a lighter color; the sides and feathers which cover the thighs are clouded and nearly of the same color as the back, though sometimes darker, and edged with white; belly white; legs orange generally, though not always, being occasionally of a somewhat sooty brown.

They are common in many places, both of warm and cool temperature, and breed freely in all. This, as the Spanish, is said to be one of the species used to produce the French large-sized goose known as the Toulouse, the frequency of the white line at the base of the mandibles being pointed to as one of the indications of sure cross-breeding, and the dewlap or under-bill wattle another; but then the carriage, general appearance, and other variations render this supposition a particularly doubtful one, though the cross between this and the common domestic goose is said to be fertile.

In domestication the species varies considerably both in feather, bill, and shanks. I have seen them of a soft buff where the darker colors usually are, and also with a tint of red or yellow, but of a silvery gray with darker and lighter shadings, with bill, shanks, and feet a bright orange.



Photograph by courtesy of Reliable Poultry Journal

MUSCOVY DUCKS IN OPEN YARD
Bred and owned by Maplewood Farm, Connecticut

In Bewick's time, at the beginning of the last century, he says: "They are kept by the curious in various parts of England, and are more noisy than the common goose." (This is saying a good deal, but possibly even these last vary as regards the almost constant conversational cackle and other sounds more or less loud.) "Nothing can stir in the night or day without their giving the alarm by their hoarse cacklings and shrill cries. They breed" (says he) "with the common goose, and their offspring are as prolific as those of any other kind. The female is smaller than the male. The head, neck, and breast are fulvous, paler on the upper part; the back, wings and tail dull brown, with pale edges; belly white; in other respects like the male, but the knob over the bill is much smaller."

As a useful, hardy, ornamental variety, they have long been known, domesticated, and bred both in England and other countries, and are valuable as early and prolific layers of dull whitish eggs; their flesh is excellent both in flavor and texture, and they are easily fattened.

I am indebted to Mr. J. Selwyn Rawson, of Thorpe, Halifax, Yorkshire, for the following notes:

"I have kept Chinese geese for three or four years, and have always found them to breed freely. They are good layers, much more so than the Embdens or Toulouse. My geese have at the present time (March 12, 1898) been laying more than a month, and only one has yet shown any signs of becoming broody, and that within the last three or four days. When keeping Toulouse and Embdens, the latter breed was much later in commencing to lay, and did not lay so many eggs. Up to the present time my Chinese geese have laid about ninety eggs (I have six geese). I have not kept an accurate account in previous years of the number laid, but think they will lay on an average about thirty-five to forty eggs each per year.

"They are excellent sitters; but as a rule I do not let them sit, preferring to hatch their eggs under a hen or incubator. I find if the geese are not allowed to sit, they will take a clutch of goslings, which have been hatched in an incubator or under a hen, and bring them up as if they had hatched them. The gander is also very attentive, and during the time of incubation (if the geese are allowed to sit) will rarely leave the neighborhood of the nest, and when the young are hatched will follow them about and protect them from danger.

"I cannot say for certain how many broods a year they will bring up,

but, as a rule, my geese lay about twenty eggs and then become broody; if not allowed to sit, they then lay again about fifteen or twenty more eggs. Of course, some individual birds lay more than this number, and some less.

"As to the number of geese to one gander, I usually run three, but I have found four by no means too many; and, I think, with a young gander the eggs would be fairly fertile with even five. I would not advise so many under ordinary circumstances. With three geese I have found very few unfertile eggs, and the goslings hatch out strong and healthy.

"As to the question of white sitting longer than colored I cannot give any opinion, not having kept the former.

"The colored ones, as far as I can judge, take from one to two days less to incubate than the Embdens or Toulouse. When full grown, the ganders weigh about twelve to thirteen pounds, and the geese one or two pounds less. They are very close feathered, and, thus, to a casual observer they do not appear so heavy as they actually are.

"They are somewhat noisy birds, and, like all geese, soon give the alarm at night if anything unusual occurs, or anything disturbs them.

"They lay a comparatively large egg for the size of the bird, each one weighing from six to six and a half ounces."

Coupled with the above interesting description of the colored Chinese goose, Mr. J. S. Rawson sent me some admirable photographs of his birds, which are given as excellent illustrations of the breed. I may here remark that many prefer the Chinese goose, though small, to the ordinary goose, the breast meat being tender and of delicate flavor. Though they have a few of the characteristics of the Toulouse goose, they far surpass it in quality, the latter having a coarseness not noticeable in the colored Chinese.

THE WHITE CHINESE GOOSE

The white variety of the Chinese goose is a truly beautiful bird, possessing an elegance of contour and a style of carriage all its own. When they are seen to advantage on the borders, banks, or waters of a lake or large pond, they strike the observer as being, at least, the most beautiful of the domesticated goose family. In their motions they are particularly graceful, and their long necks, well-formed and compact bodies, add to rather than diminish their beauty. This is enhanced by the contrast of the pure white plumage with the brilliant orange-red of their bills and knob, and with their not less bright-tinted shanks and feet; while the blues,

being surrounded by an orange or golden setting of delicate skin, add another charm to those already possessed.

It is some sixty years ago since I first saw a group of these both useful and ornamental birds, and then, as now, I was deeply impressed with their peculiar attractions. They were on the bank of a large pond, enjoying the warmth of a fine summer day, while, running about them, were about a dozen fluffy, yellow-coated goslings. These and the old birds, with a background of green rushes reflected in the water, completed the picture.

The white variety is somewhat larger than the colored Chinese goose, and does not lay so many eggs; it is said to sit from one to two days longer, seldom hatching a large brood; and the goslings are also less hardy.

Having watched their habits at various times, I have come to the conclusion that the length of neck is particularly useful to the bird, enabling it to seek much of its food below the ordinary surface-weeds of the water.

Although such a beautiful variety of the goose, it is somewhat scarce from the causes above mentioned, but, when profit is of no consequence, it seems, from its many physical attractions, to deserve more attention. It has, however, deservedly or otherwise, the credit of being quarrelsome when other water-fowl are kept, and, when it takes a dislike, of being destructive. But, in this respect, as far as I can learn, it is neither better nor worse than its colored relatives; or even those more distant—the “common,” the Embden, and the Toulouse geese, all of which should be kept separate from other poultry.

Mr. Sagendorph, of Massachusetts, an old breeder of China geese, says of them in the *Water-Fowl Guide*:

“This variety is sometimes called the Knobbed goose, and Hong Kong goose, owing to the protruberance or knob at the base of the bill, like that of the African goose. In appearance it resembles the swan. In range, it is known throughout China, the greater part of Asia, and in portions of Africa. It is stated, on the best authority, that the common domestic goose of India is a hybrid between this goose and the Gray-Leg. In size it is between the common goose and the swan; pairs average about thirty pounds. They are very prolific—more so than any other variety of their family. They lay about thirty eggs before desiring to sit, and sometimes lay three or four litters in one season. Their eggs are about



EMBDEN GEESSE ON THE MARCH

Bred and owned by Mr. Jager

Photograph by Theo. F. Jager

two-thirds the size of those of the common goose. The color of their plumage is a grayish-brown on the back and upper parts, passing to white or whitish-gray on the abdomen; fore part of the neck and breast a yellowish gray, and a very dark-brown stripe running down the entire back of the neck from the head to the back. The white variety is pure white throughout.

“It is only necessary to see the White China goose to become its ardent admirer, for, with its fine form, graceful carriage, long slender neck, large orange knob and soft dove-like purity of plumage, it does not require a great stretch of imagination to see the most beautiful bird extant.

“When dressed, there are no colored quills to mar their beauty; they always look inviting and tempting. I am sure that all will agree with me when I say that the most profitable fowls are those that properly combine table, market and egg producing qualities. In all these requisites I think they are a little superior to any breed of geese.

“Hardiness, activity and vigor are traits peculiar to the breed. By carefully managed tests made upon my own farm, the Chinas have the highest number of eggs to their credit. They are very prompt to mate and the ganders will mate with more geese and the eggs will be more fertile than in the case of any other breed.

“I have raised and am now raising all the leading breeds of geese, but prefer the Chinas every time. I am prepared with records, and also with

stock, to fully substantiate my statement that, of all breeds of geese, the China stands at the head as a money maker. The larger geese will not, can not, lay the eggs because of inclination toward laziness, and when we lose the egg quality we lose the practical side."

EGYPTIAN GESE

These pretty but rather quarrelsome geese are at home where pyramids and fantastic dances are in fashion. Purely an ornamental breed, they have not been able to gain a foothold in all sections. We often see them in the more prominent shows, where large string men are apt to put in an appearance. In size they are smaller than the rest of the goose family. The adult gander weighs only ten pounds, the adult goose eight pounds, the young gander the same as the old goose, and the young goose is happy if she tips the scales at six pounds.

The wings are large and powerful and, in lieu of the ordinary hard knobs on the wing joints, there are strong, white, horny spurs, about five-eighths of an inch long.

Head is black and gray, chestnut colored spot around the eyes. Gray and black is divided over neck and back. Centre of breast is chestnut, the rest silver gray. Body same as back, and on under parts pale-buff, breast finely pencilled with black lines; shoulders are white with a small, black metallic bar. Shanks are reddish-yellow.

The Egyptians are mated in pairs, and, if the goose is allowed to follow her natural instinct, she will successfully hatch and raise a good-sized cluster of young ones. They are very hardy.

SEBASTOPOL GESE

These, though small, are particularly attractive. They were first imported into England by a well-known Water-Fowl fancier residing at Biggleswade, about the time of the Russian war, now some fifty years ago. Coming as they did, from the neighborhood of Sebastopol, they were accordingly so named by their owner. If not ornamental, at least they are peculiar, having the wing coverts much twisted, curled, and elongated, while the primaries and secondaries are singularly formed. This abnormal formation, of course, precludes all possibility of flight, though they can run, partly aided by their wings, along the surface of the ground with considerable speed. This so develops the pectoral muscles, and those of

the thigh and leg, that it renders them excellent as table birds, rivalling, as they do in that respect, our own lesser variety—known as the common goose. In color they are mostly of a mottled grey, with more or less white. They are neat and compact in form, hardy in constitution, but not over-prolific. Though scarce in England at present, they are said to be fairly common in some of the northern parts of Russia.

The white are those most fancied, and certainly on a lake or pond with varied verdant surroundings, and in the meadows or tangled bush environments, they thus present a most pleasurable appearance. The best and most useful hitherto seen have been some owned and others bred at Dangstein, the late beautiful home of the Honorable Lady Dorothy Neville, where, though a striking adornment, they were grown for table purposes. When fat, they usually weighed ten to twelve pounds, while in flavor the flesh was remarkably rich, and of the highest quality.

Sebastopol geese are very rare in America, and while many efforts have been made to breed them, thus far all trials have proved futile. The only way the young have been raised is in crossing them with Embdens, and the progeny thus produced again with the parent line. Mr. Smith, of New York, has been very successful in producing large flocks by using Embden blood to impart additional vigor.

The feathers of American-bred Sebastopol are, unlike frizzle feathers, very weak and partially destitute of adhesion in the barbules. They resemble in a considerable degree those of a silky fowl, and are in part midway between the silky and the frizzled. According to Wright, the feathers split themselves up into narrow filaments.

THE SPUR-WINGED GOOSE

This species is related to the semi-palmated goose, which is a large striking-looking bird, glossy, greenish-black, with the shoulders, rump, breast and abdomen pure white. Its voice is said to be a loud whistle.

The Spur-Winged goose, as its name indicates, is provided with a long spur; the legs are rather high, and placed well under the body. There are three or four species of the genus.

Dr. G. Bennett, in a letter to Mr. Gould, says:

“The semi-palmated goose I have seen domesticated in Sydney in a poultry yard, having been hatched by a common hen. This bird in anatomy and habits evidently approaches the cranes. Especially when you see it

running about the yard, it resembles a crane more than a goose. The black and white plumage imparts to the bird a very handsome appearance as it walks with a stately tread (not with the waddling gait of a goose) like one of the waders. They are easily tamed, and are very friendly to other poultry, but require company in order to thrive. The flesh, however, is coarse and not well-flavored. It inhabits southern, southeastern and northern Australia, but seems to have been driven away from the southern parts by the progress of cultivation. In Doctor Lichardt's time they were numerous and the flocks so dense in the north that the natives were enabled to procure numbers of them by spearing them when flying."



Photograph by courtesy of "Commercial Poultry"

GROUP OF TOULOUSE GEESE ON THE WAY TO CREEK

Bred and owned by Charles McClave, Ohio

The knobless variety, which inhabits the western and southern portions, Mr. F. Ayres says, "is rated as the commonest of wild geese. The flesh of this species is by no means good eating, as the flesh is coarse and tasteless, and the young birds have scarcely any meat on them. Sometimes they are very shy and at others absurdly tame; as a rule, it requires heavy shot to kill them.

"They come out early in the morning from the swamps and reeds to feed on the grass seeds, and are often seen on the farmer's corn lands. If stalked in the long grass, they will invariably creep away, instead of taking to wing, as they run at a good pace; and by the time the hunter is on the spot expecting them to rise, he sometimes sees the head of one a couple of hundred yards off examining the situation. If the hunter squats when the birds are flying, they will often come and have a look at him, and this curiosity costs many their lives. As a rule, they are gre-

garious, but are sometimes seen singly, and at others in pairs; they breed away from the water in thick, grassy or rushy spots, and lay a number of white eggs, with thick, glossy shells."

THE HUTCHINS' GOOSE

This breeds in the Arctic Regions, and abounds about the Columbia River. The head is small, oblong and compressed; the neck long and very slender; the body full and plump. The head and about two-thirds of the upper part of the neck are of a glossy black; a patch of white on each side of the head and neck; the general color of the upper parts, brownish-grey, the feathers being edged with a lighter shade; those of the lower parts, pale greyish-brown, with yellowish-grey edgings; abdomen and lower tail-coverts, white; rump, brownish-black; primaries and tail, dark-brown; eyes, brown; bill, feet and claws, black. Weight, about four and one-half pounds. The female is smaller than the male. The eggs measure about three by two inches, and are pure white in color. The flesh is of an excellent flavor.

THE SNOW GOOSE

This species has a wide range, spending the winters in the western and southern states, and breeding in the Arctic regions. The bill is carmine-red; unguis, white; iris, light-brown; feet, dull lake; claws, brownish-black; plumage, white, with a yellowish-red tinge upon the forepart of the head; brownish-gray primaries, blackish-brown at the ends. Weight of male about six and three-fourths pounds; female, smaller. When young and fat, they are very good eating; when old, tough and stringy. The young are of a blue-gray color until after a year old. The neck then begins to acquire its white color, the upper parts remaining of dark buish-grey for some time longer, when the bird suddenly becomes white all over. The age at which the full white plumage is attained is not definitely known, and probably varies in individuals and according to surroundings.

THE WHITE-FRONTED GOOSE

The *American Stockkeeper* says: "This species deserves mention, not only because it is found in this country, but because by some it has been supposed to have had something to do with the make-up of the domestic goose. It is found in the western and southern states during

winter, and along the coast from Massachusetts to Texas. It breeds far to the north. It is also found in England.

"The bill is carmine-red; unguis, white; edges of eyelids, dull-orange; iris, hazel; feet, orange; claws, white; head and neck, rich greyish-brown, the upper part of the former being darker; on the anterior part of forehead a band of white with a blackish-brown margin behind; general color of back, deep gray, the feathers of the anterior portion having broad tips of greyish-brown, the rest grey-white tips; the rump, pure, deep grey; wings, greyish-brown, ashy-grey toward the edge; primary coverts and outer webs of primaries, ashy-grey; secondaries, and inner web of primaries, greyish-black; breast, abdomen, lower tail coverts, sides of rump, and upper tail-coverts, white, but breast and sides patched with brownish-black, and the latter sprinkled with greyish-brown. Weight of male about five and one-fourth pounds; female about four and one-fourth pounds. The female resembles the male in plumage, but the white margins of the wing-feathers are more indistinct. The flesh is palatable, being of excellent consistency and flavor. Audubon states that such is their winter plumage, 'feeling pretty confident that in summer the lower part of the body becomes pure black.'

"We may add that there is testimony to prove that the Barnacle and the Brent geese are also found in this country."

CANADA GEESE

The wild, or Canada goose is bred pure in a domestic state perhaps more extensively than brown or white Chinas, says Mr. Flagg in Rhode Island Agricultural Experiment Station Report. "In fact, these three breeds are in demand as ornamental water-fowl for parks and private grounds. The Canada gander is also used for mating with the African or the Toulouse goose—the former is preferred—for the breeding of the "mongrel," or "wild mongrel," as it is sometimes called, and it has the reputation of being second only to canvas-back duck in quality and flavor when prepared for the table. For this purpose, Canada ganders of good size and tested breeding qualities are highly prized. They vary in price from ten to fifty or more dollars each.

The importance of size in the production of mongrels has doubtless had its effect in the selection of the largest Canada birds for breeding pure. This course has resulted in more than doubling the size, as is seen by com-

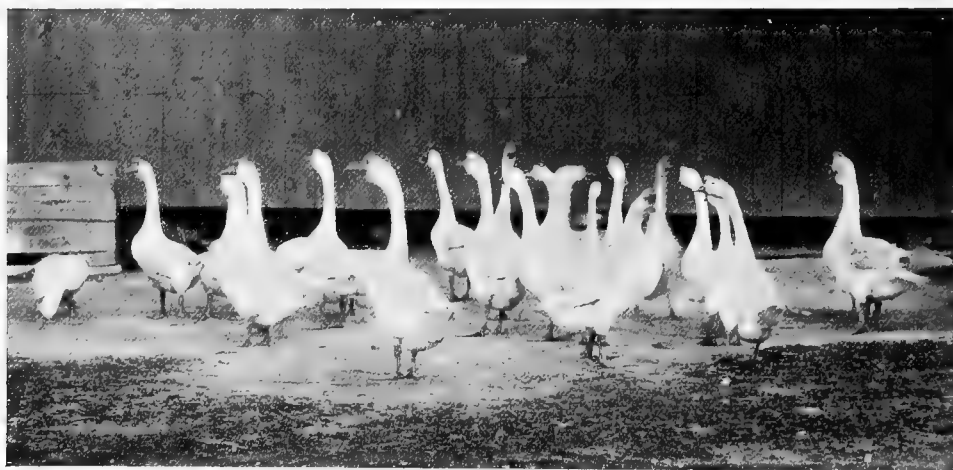
paring the weights required for this breed in the show room and the weights of adult wild specimens, as given by Audubon.

The mating of the Canada and the African geese produces a mongrel strongly resembling the Canada goose in color of plumage and distinguishing marks. In dressing for market, the feathers of the head, two-thirds or more of the neck, the wings and tail are left on the bird, and serve to identify and guarantee the genuineness of its breeding. When Canada geese are crossed upon white domestic geese, the color of the progeny is very uncertain, and, although genuine wild mongrels, their doubtful color causes distrust on the part of the purchaser, and injures their market value. The Canada goose lays usually from six to eight eggs, but occasionally lays more in a domestic state. One breeder of experience has known a wild goose to lay eleven eggs in a single season, but such productiveness is very rare. He also states that, with extra care and feeding, the wild goose may be persuaded to lay two settings of eggs in a season, but ordinarily she lays only one. The Canada female likes a secluded place for nest-making, where she will be free from disturbance, and, like the wild or wild-cross hen turkey, is liable to steal away to some unfrequented spot which she can utilize for that purpose. In the spring of 1897, the writer, walking across a pasture, was much startled by the sudden screaming, hissing outcry of a wild goose, as she departed, half running and half flying, from her secret nest. She was sitting upon six eggs, all of which she hatched. She was about a fourth of a mile from the house of her owner. The goslings are hardy little fellows, imbued with some of the independence and self-reliance born of an ancestral life in the woods and fields not many generations back. They are of a muddy green color, with dark bill and legs. After hatching, their care and feeding does not vary materially from that given to goslings of the domestic breeds.

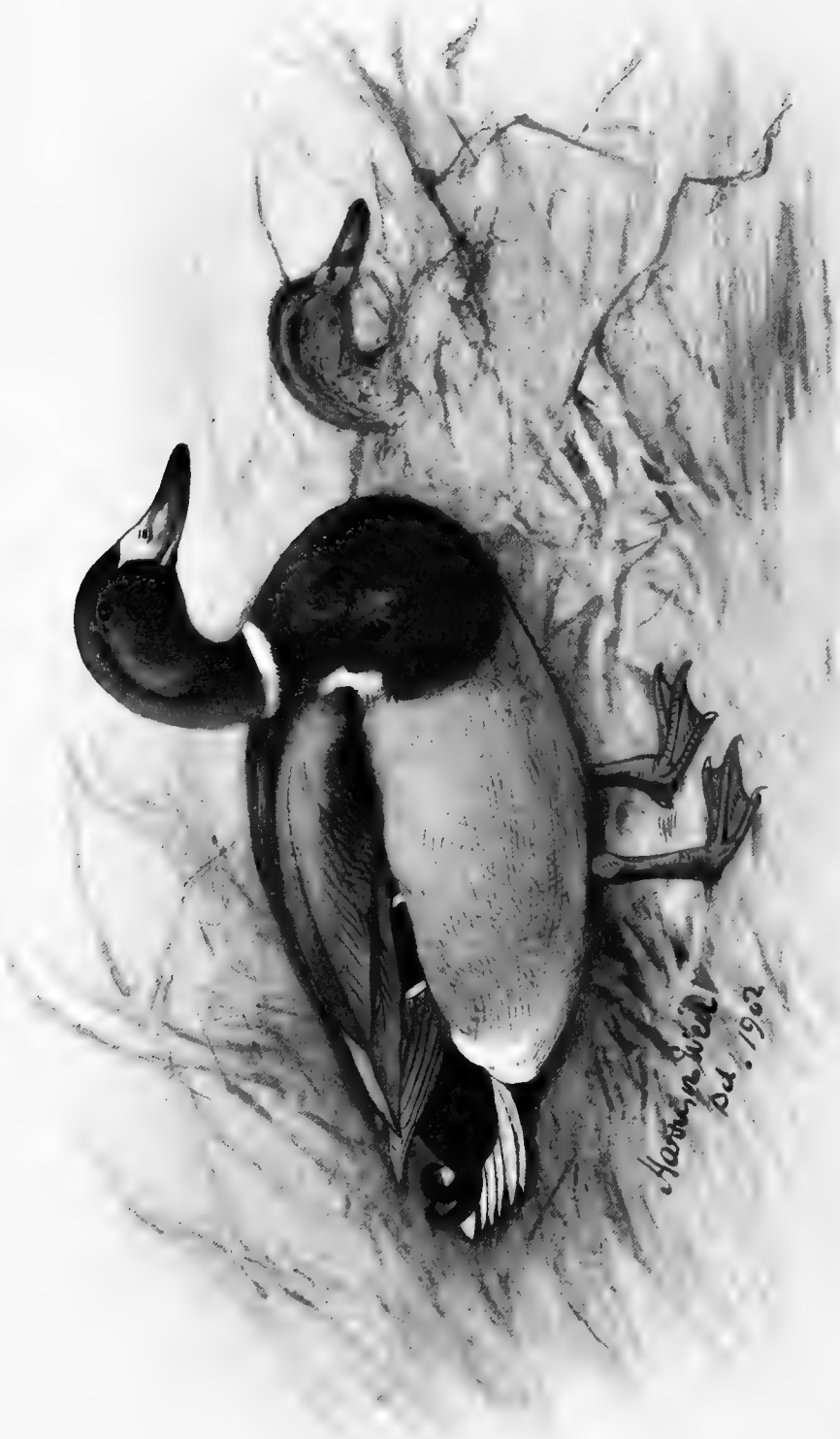
A HUNTER'S WORD

"The Wild Canada goose has a number of other names given it by gunners along the north and south Atlantic Coast, such as Honker Goose, (Old Honker), Black-Headed Goose, Common Wild Goose, Bay Goose, etc. These birds breed in the Arctic regions of the far north Hudson Bay, Victoria River, etc. I have seen them on the Behring Straits, in Labrador and Nova Scotia, during their fall migrations, feeding on the sand bars in such large numbers that when they rose, on being disturbed in

some way or another, there were simply clouds of them; then they would separate and shape their course southward, following the coast line. On the coast of Maine and Massachusetts, large numbers of them are shot on their flight southward. A great many gunning camps are erected and maintained by gunning clubs and private parties, where some of them have from a dozen to three and four hundred of these birds staked out and harnessed, thoroughly trained to decoy their fellow species as they come along. This is from the middle of October to the middle of December and sometimes later. I generally break camp on the 20th of December, coming out on the ice, bag and baggage, ducks and geese. I usually have fifty or more of the geese decoys. Some wild birds are usually disabled every fall, and these I keep and breed with others which have been bred in confinement previously. Infusing the wild stock into them makes them better decoys. Usually, they will not mate or breed till the fourth year, but sometimes they will mate on the third year. I am speaking of young birds. Old birds I have had mate up in the next year after being captured. I have some this year which have done so. They are a very intelligent bird, easily domesticated after being captured." Thus speaks Mr. Woodman, of Massachusetts, one of the pioneers of decoy gunning in the country.



A GROUP OF WHITE CHINESE GEES

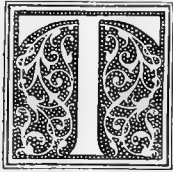


MALLARD AND WILD DUCK.
The property of HARRISON WEIR

DUCKS*

THEODORE F. JAGER, Connecticut

"It would be curious to know when the duck was first domesticated, but the solution of such a question is a task on which I shall not venture."—AUDUBON.



THE origin of ducks is shrouded in mystery. Varro and Columella first speak of them to their (Roman) readers. Columella advises basins covered with netting for their keep, showing thereby that ducks, at that time, were either better winged than at present or were of the ornamental varieties. Dr. A. Maar states that the Romans valued their duck-pond next to their bath-room, and if a grandee failed to offer his caller a bath and an opportunity to admire his *nessotrophium*—duck-pond—it was considered a slight, that often led to bitter calumnies. The Chinese also have been known as duck-breeders as far back as their records date; and to them we must grant the palm for having been the first to attempt the domestication of ducks for ordinary purposes. Our Pekin, the market-duck for the million, raised by the million, is nothing but a Chinese product, transplanted and improved under American conditions, and with true American energy.

All varieties of ducks fall into one of two great classes:

1. Varieties that are, or can be, profitably raised for general market, to use for culinary purposes.

2. Varieties that are purely ornamental, or kept for decoying purposes.

Either class can be again subdivided into standard and non-standard varieties.

Mr. Weir states many valuable truths in his article on duck-raising. It is quoted as follows:

"For many a year, it has been with me a matter of speculative surprise

* This chapter has been entirely rewritten by Mr. Jager, who is considered one of the best-informed duck breeders and judges in this country. Records and reports from State experimental stations have been used liberally. The experiences of individual breeders have been incorporated, and quotations from Mr. Weir's latest work have been used to make this part up to date in every respect.—EDITOR.

that the duck has not received more attention as a profitable, productive industry, as a natural article of superior marketable value when compared with other poultry, with the possible exception of the goose. Both require, after their early life-stages, but little attention; both are rapid growers, and realize good prices, being in general demand; both are partly self-sustaining, and of considerable utility in many ways on pasture and other lands.

"On all hands, it has been freely admitted that no fowl on the farm better repays its keep than the duck. As an egg-producer, it has long been recognized as almost equaling, if not surpassing, the ordinary hen. The record of some ducks is so extraordinary as to become almost amazing, being more than 100 eggs in as many days, and this with ordinary usage, runs, and food. Good as this is, it is not of so much consequence as duck-rearing for the market, which still is a neglected quantity in the economy of our agricultural and farm produce. Even the market-gardener, with the profuse waste that daily occurs in fruit and vegetable growing, might utilize in spring and summer much green and other refuse as provender, and thus realize an income apart from his main business.

"On occasions not a few, when inspecting the poultry stock of the farm, the homestead, the poultry fancier, or that of the cottager who keeps 'a few birds,' I have found on inquiry that, where ducks were kept as well as poultry, in most cases, if not in all, ducklings were eulogised as paying better than chickens. They require infinitely less trouble and attention after the first week or two from the hatching, the rapidity of their growth making them fit for the market, while the chickens are still in 'troublesome times.' Some few years ago, in going over a poultry farm that had been a failure, I learned from the owner that, though he had lost largely on eggs, turkey, and chicken raising, his ducks and ducklings had been highly remunerative. The varieties kept were the true white Aylesbury and the Pekin. This being so, it seemed a little odd that the hen and chicken farming had not been abandoned in favor of the duck and duckling. I was told that this farmer persisted in keeping to the former through having read and heard glowing accounts of the ultimate realization of a considerable income when the subject was thoroughly mastered. The poultry farm was an entire failure, while the duck-keeping was a success, and he was free to admit that, had he kept ducks only, he believed that his farming would have exceeded his highest expectations.

"Especially of late years, practice and experience have proved to the many, what has long been known to the observing and discerning few, that the better and more appropriate the food, and the more rigid the regularity of feeding, the greater the success. Some ducklings will thrive better than others on a certain kind of food. This the feeder quickly notes, and places them in a separate pen, but, as a rule, the rations provided prove suitable to the majority. In America, 'the revised' Pekin at present rules, though the Rouen is gaining in favor rapidly, on account of the darkness



PRIZE WHITE AYLESBURY DUCK
Owned by Mr. Gillies

From a photograph

of its flesh and the richness of its flavor, though it is less delicate, and the feathers are not so valuable.

DUCKLINGS AND CHICKS

"Edwin W. Fly, of Chalfont, Pa., has prepared a tabulated comparison of the growth of ducklings with chicks. He writes expressly for the *American Reliable Poultry Journal*, Vol. XXXI., page 359, from which I take the liberty of transcribing, almost verbatim, at the same time complimenting both author and editor on the trouble taken in elucidating a problem by

actual figures that has long been known broadly and commonly accepted as fact. Here is the comparative statement:

“It requires about three months (on the average) for a chick to reach two pounds, while a duck (averaging a number) arrives at that weight in less than half that time, and is ready for the market (weighing three pounds) in seven weeks, thus giving a really larger profit in the summer months, though prices rapidly decline after July. The following are the weights of some young ducks not extra fed, and which were taken in lots of 100. The weights are for pairs and not single ducks, and are the average:

“One day old, per pair, 4 ounces; eleven days, 15½ ounces; twenty days, 2 pounds, 1 ounce; thirty-two days, 3 pounds, 6 ounces; thirty-nine days, 4½ pounds; forty-three days, 5 pounds; forty-five days, 5½ pounds; forty-nine days, 6½ pounds; fifty-four days, 7½ pounds.

“It will be noticed that they grow faster at some times than at others, which is due to the warm or damp weather at the case may be. After the fourth week, they should gain from eight to twelve ounces per week, though they have been known to gain fourteen ounces per week’ [after the second week I found that my white Embden goslings gained two pounds a week for several weeks, some weighing at Michaelmas more than twenty pounds], ‘but,’ adds Mr. Fly, and too much emphasis cannot be applied, ‘everything depends upon the food and care bestowed upon them.’

“Now follows, to my thinking, the most interesting part, one that should be thoughtfully considered by every duck and poultry raiser, whatever be his country.

COMPARISON WITH CHICKS

“Compared with chicks, the growth forced on high feeding with a lot of ten ducklings and chicks for experiment, with the same amount of food for producing one pound of flesh (usually a cost of five cents for each pound of carcass), the following is presented:

	Duckling.		Chick.	
	lbs.	ozs	lbs.	ozs
One week old.....	0	4	0	2
Two weeks old.....	0	9	0	4
Three weeks old.....	1	0	0	6½
Four weeks old.....	1	9	0	10
Five weeks old.....	2	2	0	14
Six weeks old.....	2	11	1	2½

	Duckling.		Chick.	
	lbs.	ozs.	lbs.	ozs.
Seven weeks old.....	3	5	1	7½
Eight weeks old.....	4	0	1	12
Nine weeks old.....	4	8	2	0

“As they approached maturity (after the eighth week), the ratio of gain begins to become proportionately less, while some are heavier than others’ [this would, naturally, be a certainty]. ‘The ducks were kept in a small coop, and fed to demonstrate the highest point they could be made to attain, the pure-bred Pekins being used for the experiment. The ten ducks sold for twenty-eight cents a pound, or \$12.60. After paying the expenses of shipping, commission, etc., the receipts were \$9.68. The food cost \$2.36, leaving a profit (on ten ducks sold June 5th) of \$7.32. The chicks sold for twenty-four cents a pound, the receipts being \$3.74, cost of food being eighty-two cents, leaving a profit of \$2.92. They were sold alive, but should have been sold dressed. The difference in profit in favor of the ducks being \$4.40.’

“There is here an omission, and that an essential one. It is stated that the ducklings were pure Pekins, but the breed of the chickens is not mentioned, though it is well known that some varieties of fowls grow and fatten faster than others. As the chickens were sold alive, there was not the cost of dressing, etc., which was doubtless added in with the expenditure for the ducklings.

THE DOMESTIC DUCK

“The domestic duck and its varieties have all originated from the wild duck (*Anas boschas*, Latham), which is distributed over the British islands, though in much less numbers than formerly. They are also spread far and wide into the northern and temperate regions of Europe, Asia, and America, where they are mostly migratory birds.

“Columella speaks of the duck only as a wild fowl that must be confined to prevent its flying away; and it appears that within the last few centuries the wild has always been resorted to for the replenishing of tame-bred birds or for adding constitutional vigor to some of our larger and less natural varieties.

“Ducks have always been considered peculiarly profitable adjuncts to the farm, costing a mere nothing for food, if only a few are kept, and these have the run of the meadows and arable land. Taking their ease during

the day, sleeping more often than not, they seek and find their food mostly at sundown. So on through the night to the early dawn, when they return home, sometimes with their crops so full, and themselves so tired, that they find it necessary to stop every hundred yards or so. When at last the haven of rest is reached, there is a general rejoicing.

"The Mallards and wild ducks would sometimes take flight of an evening, to visit friends about half a mile away, but they always returned in the morning. Even the wild Mallard may be so increased in size, by generous feeding, as to be fat when mature.

"At one time many of the fen ducks were cross-bred, as were those



Photograph by Thomas A. Barrett

PEKIN DUCKS IN RANGE
Bred and owned by F. A. Lewter, Florida

that came from Holland, being often much splashed with white. They were white, or black with white breasts, and light grayish blue and white; but it is many years since I have seen such in the London markets, to which they were formerly sent in flat crates by the hundred, or more. Now our household ducks are larger in frame, but whether or not of a higher quality as food is extremely

doubtful. A fat, wild Mallard, in my opinion, far surpasses in flavor any tame duck yet produced, or ever likely to be. At the present time, the ill-considered craving for size in our poultry is perfectly inimical to high flavor, plump breasts, and general short-fibred yet rich quality of flesh. That our forefathers were of this opinion is evident from their setting a higher market price on the wild rather than on the farmyard, or tame species.

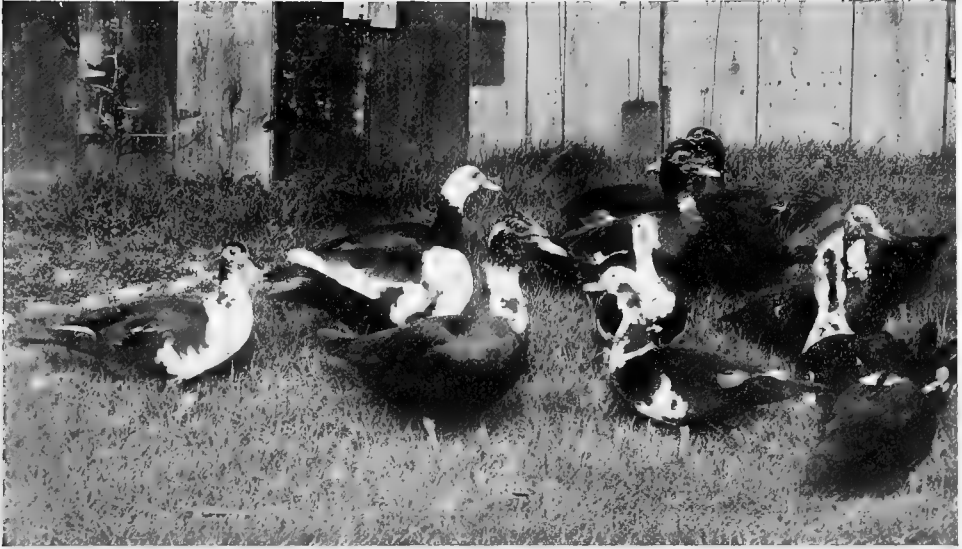
"Ducks are well known to be extraordinary layers when properly fed. I have already illustrated this by the best of all breeds, the white Aylesbury, which is occasionally followed by the Rouen, that lays a green egg. Some of the more common, or barn-yard Sussex and Kent breeds, have been known to lay more than 160 eggs in a year, besides hatching and rearing ducklings.

LAYING HABITS

"The wild duck does not lay so many eggs as the ordinary tame or Dutch duck; while the latter will often, before wanting to sit, drop the eggs about the feeding ground. When the wild duck builds its nest, it generally chooses a spot far from water, and in a wood, shaw, or hedgerow, in a patch of bushes, nettles, or other weeds, according to the surroundings. I have known it to build in oak and willow trees; in pollards, in a fork of the branches; but I have never known this to be the case with any kind of tame duck. When left to themselves, these will hatch out, and after a few days bring home, in most cases, a full complement of beautiful, strong, little things. On the other hand, the tame duck generally requires attention. Some of the eggs should be removed during the time of laying. A sufficient number of eggs must be left only when the nest is well-feathered, as that is a sign the duck has nearly completed the number she will lay before taking to incubation. Before that time, at one place or another, she will sometimes lay more than 100 eggs, most of which, if gathered unfrosted and if there are sufficient drakes, will prove fertile. These collected eggs may be either put under hens or incubated artificially. The duck sits from twenty-eight to thirty-one days, but mostly hatches in twenty-nine to thirty days. Comfortable and somewhat secluded nest-boxes should be placed about the pond, and, where possible, should be wired in, with two or three openings. These should be closed every evening about five o'clock, and not opened till ten the next morning. This prevents the ducks getting on the water and there dropping their eggs in the night, which they will do very often, unless means are taken to stop them. On cleaning out a small pond of mine, more than five dozen eggs were found in the mud, but this number was far exceeded by those discovered in another pond in the neighborhood, where a number of ducks were kept. When the water was let off to catch the fish and eels, there were discovered more than 500 eggs, mostly in a good state of preservation. Unlike geese, ducks may be kept profitably without water, and I have found their progeny equally strong and healthy, and the eggs as fertile as those that had ponds.

"When a duck steals away to make her own nest, and a large number of eggs are not desirable, it is well to leave her to her own resources for incubation. Often her first eggs are laid in a simple hollow in a bank, or among

weeds or bushes. As the eggs increase in number, she daily adds sticks, straws, weeds, grass, fern, and feathers, and by the time fourteen or fifteen eggs are laid, the nest has become of considerable dimensions. Even from day to day as she sits, she is continually adding grass, sticks, and other substances, mixing in both down and feathers, and when she leaves the nest for food she covers the eggs. I have put my hand under the down when a duck had been off the nest for more than an hour, and have found the eggs quite warm, so can readily believe they would not cool for some hours, if the duck were away for that time, and that the hatching would be successful. When incubated, the ducklings usually stay in the nest fully twelve hours, and sometimes more, unless they are disturbed; by that time, they are dry, strong, and tolerably active. They are seldom led to water by the old duck before the second or even the third day; if they are, they overswim themselves, and many perish; therefore, this should be prevented by cooping. Very wet weather, and liberty among long, coarse grass or herbage often proves fatal also; cold does not affect them nearly so much as wet, or as hot sunshine; being exposed to the full noontide heat without ample shade is the worst of all. I have known whole broods, several days old, that were quite healthy and strong before they were out under the sun's direct rays, die suddenly. They turned over on their backs, and after a few kicks and struggles were dead. Nor, on reflection, can this be considered at all unexpected, when it is remembered that the duck naturally is among the grass, etc., sleeping during the day, and only going forth as the sun sets and the air is cool, to seek her food. When the mother duck is left to herself, or cooped, it will be observed that she gathers her ducklings in during the day, though occasionally they will dart forth after a fly or other insect, and then scramble back into cover. Where there are many insects, slugs, snails, or worms to be got, it is surprising how fast the ducklings grow. They should be fed at least three times a day, and five times the first few days. Thin oatmeal put into a small, low trough is good, also small rice, bread crumbs, or whole-wheat meal and oatmeal mixed with bran, all well wetted. They are voracious feeders, like goslings, and should have the trough kept well supplied, as it is their practice to eat as much as possible, then collect in a group, sleep, wake up, eat again, sleep, and so on during the day. When small they must be shut in for the night, but when half grown they may be allowed to roam the meadows 'slugging and worming,' which helps their growth very considerably.



MUSCOVY DUCKS

At this age, they are most useful in gardens, soon ridding them of slugs and snails. Caterpillars also disappear rapidly before them from the cabbages, and also from the gooseberry bushes.

“To the farmer, the keeping and rearing of ducks is both lucrative and, from an agricultural point of view, of great service, because they feed so largely on ground insects and caterpillars. They also clear the ponds of duckweed and much other vegetable matter; thus about maintaining themselves in the summer time. Where foxes are not preserved, ducks, like geese, will fatten rapidly when turned into the wheat, oat, and other stubbles after the grain is carried, if a trough of water is provided, which should be washed out and refilled every day. Ducks kept in houses at night are more expensive to rear, and never thrive so well as those that enjoy perfect liberty. Never have more ‘than the land will carry’—to use the farmer’s phrase—because they will be unable to find all or nearly all their food, and some must be provided. It is dangerous to put ducks into bean and especially into pea ‘grattans.’ If the peas or beans are dry when eaten, and the ducks gorge, as they sometimes will, they get hard-packed in their crops, and then the peas or beans swell in the water taken afterward. A large Rouen duck of mine found a gallon measure nearly full of gray peas in the store-

house, and ate so voraciously of them that on her going to the pond and drinking, the peas swelled and burst her crop. Through the opening thus made I emptied the contents, sewed up the rent, and she entirely recovered.

“Ducks are best kept in small numbers, and, when ready for fattening, sold to the higgler, unless they are wanted for home consumption. If for sale, they should be sold just before they molt their first feathers. In rearing ducklings simply for the dead market, those that are layers and quick in early growth are to be desired—none better than the Aylesbury in this respect. Being large in frame, they look to be older than they are, for they seldom get their growth and ripen before the age of nine months; but are mostly fatted and killed at three, when there is little flesh on their breasts and the skin is loose. I have seen rows of the modern ‘table ducks’ that were little else than clear whitish skin, a little flesh, and large frames. These are the present-time early ducklings, but, crossed with old English or Dutch, they carry more breast-meat, though it is not so well colored. If you can raise this class of ducklings in the incubator, let them dry well after hatching before removing them to the artificial brooders, which should not be too hot. When they are hungry and begin to feed, they will take almost any kind of food with avidity. Bran, or pollards, mixed with one-third of oatmeal, is good; with water to dabble in. After four or five days, gradually strengthen the food by adding more ground oats and a little ground maize; then, at the end of six weeks, add meat scraps, of about 5 per cent. on the whole; this may be used up to the time of killing. One thing to be remembered is, that as long as the ducklings feed well and thrive fast, do not vary their food frequently. Much time is lost by the changing of diet suddenly, and it sometimes causes a check to the growth. The slightest observation will prove this advice to be correct—even in shifting from ground oats to ground barley. If you begin with suet, or fat, instead of meat, continue it to the end, unless the flocks show symptoms of nausea. Every change of food should be gradual. If the stock is to be kept over to the second molt, it is a good practice to introduce gradually a little pea-meal, as it has more substance. Store ducklings are best hardened with a gradual mixture of oats in the water, so as to give bone and stamina. Ducks are generally killed by bleeding, and plucked directly after. If for market, the fine, small, fluffy feathers on the breast are generally left on ducklings. If these are removed,

it is done with a blunt knife and the thumb. Duck feathers grow evenly all over the breast, while in a fowl they are in sections; therefore, when all the feathers of the duck are removed, the skin presents a smooth appearance. The head and primary feathers are not usually drawn, but the wings are crossed and tied, as are the legs, to the back. Some feeders use iced rooms to cool the bodies, and fit them for travel. In America, they are plunged into cold water to make them close and plump. If they are to travel a long distance in hot weather, they are packed in crates, with straw and ice. One great point is to get them into the market before it is glutted. Never to send a poor sample to a full market is a good maxim; when the demand is more than the supply, then send up those that were the 'culls.' If a cold-storage house is provided, the birds can be kept back until a telegram from the salesman calls for them.

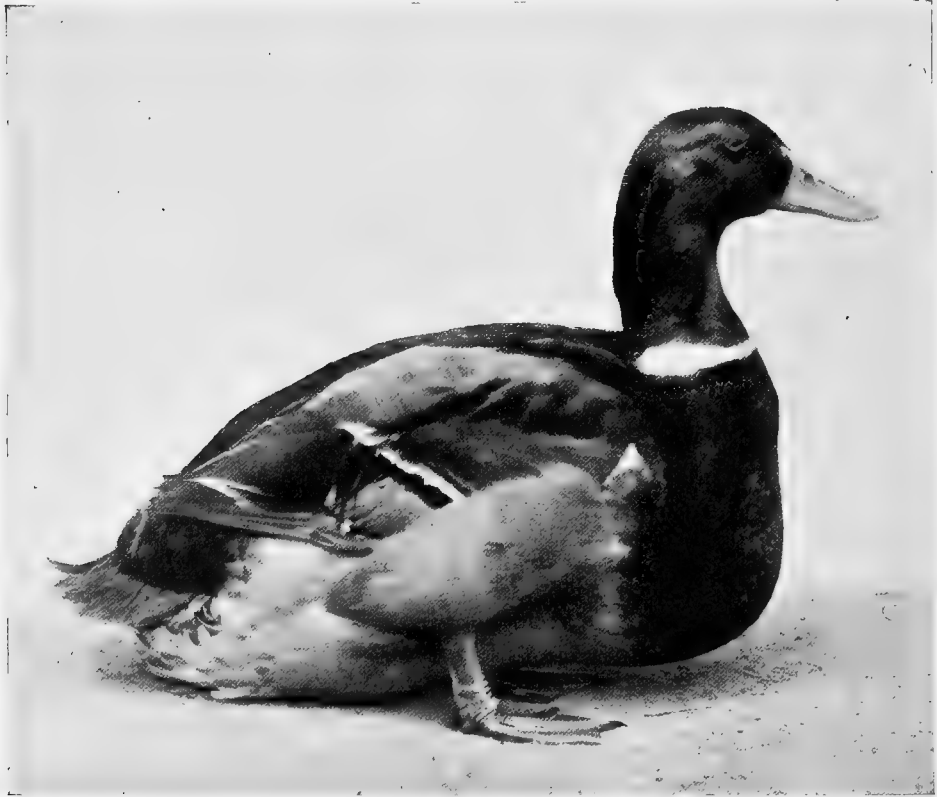
"The tame duck lays a large number of eggs if she is prevented from incubation. The best for market are the Aylesbury—a clear shining white, while all others are various shades of green. The egg of the duck is not generally so pointed in shape as that of the hen. Though preferred by some when boiled, it is not often held in such high estimation, but is used more for culinary purposes. Custards of duck eggs are said to have a peculiar richness in substance and flavor; but much depends on what food, if any, the old ducks are supplied with, besides what they forage for. It has been found profitable to keep ducks almost entirely as 'layers,' the eggs being large, and in number sometimes exceeding 200 during the year. The egg-production often commences in the winter months, when good prices can be obtained.

ENGLISH IDEA OF SELECTING AND CROSS-BREEDING

"The duck does not lend itself so readily to crossing as the fowl, nor are there so many suitable varieties with distinct peculiarities; but as a factor lending towards improvement, if not to perfection, selection is pre-eminently valuable. Where success is achieved, it is far more enduring, there being no strife for supremacy of alien blood intermixed, yet scarcely mixing; for a cross-bred, bred *inter se*, uncared-for and unmatched, soon degenerates back to the most prepotent, both in proportion and habit. This theory is the outcome of general observations carefully noted, extending over many years of a long life that has afforded exceptional

opportunities for testing the accuracy of this belief as a fact, and not a mere supposition.

"As to duck selection, perhaps the most successful experiment is that made by Mrs. Campbell, of Uley, Gloucestershire. There may not be an entire fixity of form and color, but the strain, if it may be so called, is



PRIZE ROUEN DRAKE
Owned by the late Mr J Partington

From a photograph by Hedges

certainly of more than ordinary fecundity, and therefore profitable both for the production of eggs and ducklings, good alike for home consumption and for market purposes. The Campbell breed of ducks originated through Mrs. Campbell's observing that one of her ducks was a profuse layer of fine eggs, and with various matings from time to time, the present prolific breed has been attained. From a fancier's point of view, there is a uniformity that unquestionably tends toward fixedness. Mrs. Campbell has

ducklings from her flock every month in the year; and, what is more singular, it matters not at what season they are bred, they invariably begin to lay at the age of six months. To obtain her desire for ducks' eggs all the year round, three different ages are kept: some a year old, some early hatched in the current year, and some very late. Mrs. Campbell says:

"My plan of feeding is as follows: For the first eight weeks, I give three meals a day of soft food, consisting of boiled green vegetables (this they must have) mixed with sharps, boiled rice, or bran and sharps mixed' [in Sussex we used pollard instead of sharps] 'as much as they will eat at one meal. At eight weeks, I separate those that are to be kept for stock, and give the same breakfast of vegetables and sharps, adding meat three times a week; discontinue the midday meal and give good wheat and barley at night. Those left for killing are still fed on three meals of soft food a day till killed. None are ever allowed to swim. With this treatment of "the Campbell duck," for the past three years, I have not been one single day without eggs, only keeping twelve to fifteen stock ducks. The "original duck" quoted was the layer of 182 eggs in 196 days, and at the present time the Campbell average is 210 eggs per annum.' As to the value of such a breed, comment is unnecessary; the results are sufficient testimony.

"Good as the above breed is, I do not think that it surpasses the old and true white Aylesbury, a marvelous layer of pure-white eggs. What the color of the Campbell duck egg is I know not, but presume it is the ordinary green.

"The old Sussex and Kent farmstead ducks laid well, but, unless selected for excellence in that particular, were a long way behind the Aylesbury. For good shape and quality of flesh, these ducks are specially good, being mostly plump, thick, and short-breasted. The long breast is a decided mistake, for the meat on it is never so deep and juicy as on the shorter, thicker bird, nor is the appearance on the table so inviting. I very much prefer the short breast in geese, ducks, and fowls. The amount of flesh is no greater, but the short and thick is far the best, even in appearance; nor does it cook so dry, especially toward the end. The old black, white-breasted Kent and Sussex duck was good, but still better crossed with the white Aylesbury, and a much-mottled flock presents a very gay appearance. When grown large for a few generations, they not infrequently have small, compact top-knots. The wild Mallard, crossed

with Aylesbury, makes a very excellent table duck, being plump, full-fleshed, rich and fine in flavor. They are mostly Mallard color with white neck and breast, though occasionally a white, and even a black, is bred. These deteriorate if inbred, and gradually become less and less prolific; they also lose in size.

"The Indian-runner is said to be much improved as a table duck by crossing with the Rouen, and to be also a prolific layer; but of this I have no experience. When the Indian-runner has been crossed with the ordinary farm duck, I have observed that it is not so good for the table and that it does not fetch so high a price in the market, nor from the higgler or fatter.

"The old-fashioned Dutch ducks of fifty to sixty years ago left little to be desired as table ducks except size, and even in this respect some were quite large enough for quality, and for the higher class of epicure's duck. Crossed with the Aylesbury, the size was increased, though the fibre of the flesh was longer and of lighter color. The black East Indian with white Aylesbury is excellent, and fine in flavor, the legs and thighs being full and rounded. The first, crossed with the Mallard, makes a larger and heavier duck without losing in flavor or quality; but I am no advocate for the mixing of breeds or strains, having always found the pure and old sorts far the best, and seldom disappointing in results.

"Perhaps the most satisfactory blending is that of the white Aylesbury with the Pekin, but, if either is of the best strain, there is no gain in this. The true white Aylesbury is a very early and prolific layer, and the Pekin is a larger-bodied, narrower bird and yellow-fleshed, so that the produce varies much both in form and tinting. It is a common practice to mix these in the belief that the ducklings grow more quickly than those of either, bred pure; but this is not my experience, though much depends on the season, food, and locality. In marsh land, the large old Dutch is an excellent duck, and the white Aylesbury also prospers, but the Rouen, as far as I can learn, deteriorates. It is now seventy years since I had my first ducks kept for me. Then I thought well of the white Aylesbury, and after long years of trial with many kinds, I still think them the best of all, both for laying and for the table."

AMERICAN METHOD OF SELECTING AND BREEDING

Against the foregoing statements of Mr. Weir, I cannot refrain from giving the experience of James Rankin, of Massachusetts, as recorded in

WHITE AYLESBURY DUCKS.
The property of Mr. John Charles



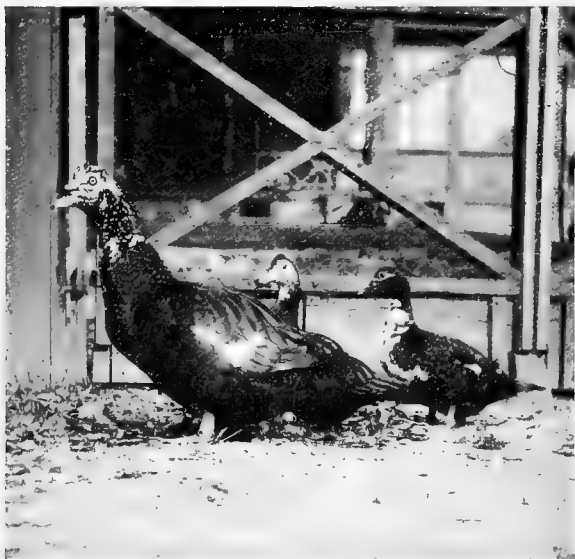
his "Duck Culture": "The Pekin duck is my favorite. I have experimented carefully during the last thirty years with all the larger breeds, crossing them in every conceivable way to obtain best results, and am perfectly satisfied with the Pekins. I have finished experimenting, and as I raise nearly 12,000 ducklings yearly, can hardly afford to lose time guessing. One cent per bird makes a difference of over \$125 in my receipts—one cent per pound, a difference of more than \$700. It is readily seen that I can afford to use only the bird that will grow the greatest number of pounds of flesh in the shortest space of time. Nor is this all. The bird must be the one that will give the first eggs of the season, thus enabling me to get my birds on the market when they will command the highest price. There is more clear profit from one early bird than from three later ones. The maximum price paid for early birds is thirty-seven cents per pound in Boston or New York; the minimum price for late ones, thirteen cents, and the cost of production is the same for both.

"The Pekin is the only bird that covers all these points. It has two slight drawbacks—its extreme timidity and its heavy, coarse voice, which it does not scruple to use when congregated in large numbers. The former can be easily overcome by careful handling. To off-set these defects the Pekin will not only produce the first eggs of the season, but by far the greatest number. They mature earlier than most ducks, are more hardy and domesticated in their habits, never wandering far, and always returning to the coops at night. They are not mischievous, and require less water than other breeds.

"My birds have for generations been bred in dry yards, with water simply to drink, and all desire for swimming seems to have been bred out of them. When allowed their freedom in the fall, the flocks never visit the brook, fifteen or twenty rods distant. Driven there occasionally for the purpose of purifying their feathers, they get out again as soon as possible. Indeed, after a water bath, their feathers cling to their bodies, and they present the same bedraggled appearance that the old hen did many years ago after having been immersed in a water-barrel to cure her propensity for sitting."

Mr. Rankin says of the Aylesburys: "A very pretty bird to look at, and the feathers are more valuable, but there the advantage ends. The strain we obtained was a trifle smaller than the mongrels we had been breeding, rather more delicate to rear, and, worst of all, we found it almost

impossible to pluck them. In all our experience, before or since, we have never seen anything to equal those birds. The tenacity of their feathers



Photograph by H. M. Carpenter

COLORED MUSCOVY DUCKS

Bred and owned by River View Poultry Farm, New York

was exasperating. Every one was bound to retain its complement of flesh. Of course the birds were so disfigured that most of them had to be retained for family use. To scald them would not only seriously injure the feathers, but would completely spoil the birds for Boston market, as scalded birds are rejected at once, being classed with cheap Western fowls.

"I had expected great things from the Aylesburys. I procured the best ducks in the country,

and imported drakes from the best prize-winners in England. I have never yet seen those drakes equaled in size. I was unusually careful in this experiment, because I knew that the English breeders claimed for their birds a superiority in all the points essential to a good market-bird, namely, delicacy and flavor of flesh, size, precocity, and greater egg production, laying special stress on hardiness and vitality. I bred those birds clear and crossed them, carefully noting the result. Our first batch of Pekins and crosses numbered about 300, nearly equally divided. These were mixed and confined in two yards. For the first two weeks, there was no perceptible difference, but gradually the young Pekins began to outgrow the crosses, the difference increasing with age. The former were very even in size, the latter irregular, while the mortality was six to one in favor of the Pekins. When we began to kill those birds, the Pekins were all in the market at the end of eleven weeks, while the crosses remained in the yards fully one week behind. The weight was in favor of the Pekins, about one pound per pair. The same difficulty existed as in

former years—the tenacity of the feathers. The pickers grumbled, while the birds were more or less disfigured. I notified the dealers of the breed of those ducks, and of the claim made by the English breeders, wishing them to ascertain, if possible, if there was any difference in favor of the Aylesburys. They said their customers displayed no preference, and for themselves they preferred the Pekins on account of the larger size and finer appearance of the dressed birds. It made a vast deal more difference than that to me. One pound per pair on 2,000 pairs of ducklings, at an average price of twenty-five cents per pound, made a difference of more than \$500 to me. The extra ten days required to mature the Aylesburys cost more than the feed for the extra pound of flesh grown upon the Pekins. I do not keep Aylesburys now, and have not since that experiment; I never shall again.”

From the above, it is evident that America cannot grant the Aylesbury the palm of being the best market-duck. My personal experience endorses Mr. Rankin's statements. Aylesburys, seemingly, are harder to pluck than Pekins, are a trifle more delicate and often break down, when forced heavily for the market. The Atlantic Farm, of Speonk, Long Island, after experimenting with Aylesburys for a number of years, has also discontinued their breeding in favor of pure-bred Pekins. Not one farm can be found on the continent to-day that makes Aylesbury market-ducklings a specialty.

SELECTION OF STOCK DUCKS

The first requisite to success in market-duck culture is good, not closely related, breeding stock, *i. e.*, birds that have not been weakened with forced feeds. Deformed or debilitated birds are dear as breeders, if presented to you in a gilded cage. Mr. Geo. Pollard, after a season of duck-raising with weakened breeders had shaken his confidence in the duck business, wrote in the *Reliable Poultry Journal*:

“We got together another flock, avoiding as much as possible all blood nearly related to the blood lines of our first flock, and began again. We stopped the fussy care, but fed and watered them out of doors, storm or shine. We cut off all the fancy variety of food, gave them a mixed feed of wheat, bran, and meal, with beef scraps, and stopped the noon feed of grain, giving in its place chopped cabbage. They were let out on the snow and into the snow water. We encouraged all the out-door exercise possible. There was no pampering and no mathematics. They were fed what

they would eat clean, whether a pint or a peck, and no more. They had drinking water at all times when the temperature was above freezing, but only at feeding time when below. In cold weather, the food was scalded and given to them slightly warm; in warm weather, it was left cold. The result was that we got a slightly less egg-yield, but a better fertility. We had good hatches and the ducklings were strong and lively. We lost fewer old birds and had fewer cripples. The hatches were good and the death-rate low, when properly managed. At the end of the season, we felt that we had learned a little. We knew for a fact that we could get good hatches with very little, if any, moisture, and that our breeders did not need mufflers and rubber boots. We had also learned that we could dispense with a professional cook, and feed only simple, plain foods with good results.

"The next year we added fresh blood from non-related stock and tried to get larger and fresher runs for the breeding stock. We began to feed more meat and to force the laying, thus getting earlier eggs and more of them. Things looked promising, and we began to revise the \$40-a-duck yarn and to locate our savings bank. Alas! We got early eggs, but the fertility was poor, and the hatches were not good. The young lived far longer than was to be expected from the conditions of the hatching, but we were not running very fast in either direction. The savings bank was just out of sight around another corner, and a bill collector was in the foreground.

"Still dissatisfied, with weakened faith in the business, but determined to hold our grip if possible, we looked about for a farm where we could get running water and grass range for our breeding ducks. We knew our Pekins could not, and would not, go into the water, for the authorities said so; still we wanted to see what they would do. We found our present location, and started our plant by building a house for the breeders. The ducks were allowed long yards and swimming pools, were out in all seasons and weather, were given less scraps, and were fed outside at all times except when a storm was too heavy. The house was of the simplest shape and style. The eggs were carried in wagons five miles over rough roads to our home place for hatching. The result was, '5,000 ducks and 800 chickens on two acres of land,' a statement of facts that went all over the country in the leading poultry and farm papers.

"This experience taught us the value of water for breeding ducks,

and the need of careful introduction of fresh blood. To produce strong, healthy ducklings, one must have vigorous, hardy, breeding ducks that have been selected and fed to that end, and not, as in many cases, merely chosen from a haphazard lot of forced market-birds, thrown out as being good enough for breeders."

The above shows that, slowly but surely, all breeders are recognizing the fact, that water, while not absolutely necessary, may prove a great help in producing good, fertile eggs, "strongly vitalized yellow balls" that are bound to evolve a weight of $5\frac{1}{2}$ or 6 pounds eleven weeks after hatching.

FEEDING AND CARE

"Pollard gives for a first meal two-thirds wheat bran and one-third Indian meal, wet to a crumbly mess with milk, either skimmed or whole, but not cooked. He says in *Ducks and Geese*: 'Cover floor under hover with chaff or fine shavings, and in front of the hover for two or three feet, with fine gravel or sand. Six or eight inches from front of hover place small troughs or dishes containing food—slightly sprinkled with sand the first time—and a fountain of lukewarm water. The fountains are galvanized iron cans, eight inches in diameter and twelve inches deep, and the water is kept near the top of the pan. After this, simply keep the ducklings warm and let nature work. If they are worth raising, they will gradually get from under the hover, and it is astonishing how quickly they will begin to stow away the food and water. Beyond watching for the first few hours that none get away from the hover and become chilled, do not fuss with them and do not try to fill them up with boiled eggs and bread crumbs.

"Mr. Moss, who taught Kansas City citizens that a Pekin duckling is a good morsel even during the dog-days, says on the other hand: 'The nursery feed consists of one measure of cracker or stale bread-crumbs, one measure of middlings, one-half measure of bran, five per cent. of grit, wet with water or milk to a dry, crumbly state. I fail to see why any one should recommend hard-boiled eggs, unless they assume because the yolk is the first food supplied by nature that the entire egg boiled hard must be an ideal food. There is a vast difference between the digestibility of a raw yolk and the hard-boiled albumen and yolk. The one can be safely eaten by an invalid, while the other might kill him; keep it away from the ducklings.'

"Most of the larger farms adhere to the above mentioned rations, substituting only smaller ingredients, as these may be had cheaply in the

local market. Generally speaking, we would favor the ration given by Mr. Moss, as more of a help to the weaker-constituted birds, in which Pollard's ration, containing excessive bran, will cause bowel trouble. Crackers or stale bread, if free from too much soda, are a valuable addition, as trials at the well-known market farm of E. O. Wilcox, New York, have proven. Strange to say, Mr. Newman, of Staten Island, advocates the feeding of hard-boiled eggs. Here are his own words: 'The first eight or ten hours after coming out of the shell, they receive no food, then I give them hard-boiled eggs. Mix these with a little cornmeal and fine bran. For the first week give light food, consisting of potatoes, turnips, beets, cabbage, etc., green rye, clover, and green corn, which has been sown in drills and cut with the cutting-machine. These should be mixed with stale bread and beef scraps. Mix dry wet.'

"While I cannot refrain from admitting that Mr. Newman has made a success out of Pekin ducks, I am compelled to think that other causes have been chiefly responsible. An improved mode of feeding ducklings would have brought him still more success.

"The McFetridge bill of fare is a good one, and I give it herewith, as far as my memory allows me to do so:

"First week: One measure cornmeal, one measure middlings, one measure wheat bran. Use grit and water. Feed crumbly, but not sticky. Second week: One and one-half measure cornmeal, one measure middlings, one measure bran, one-eighth measure beef scraps, one measure roasted bread and one-half measure green rye or clover. Third week: Two measures cornmeal, one-half bran, one-sixth scrap and one green food. Fourth week: Two measures cornmeal, one and one-half bran, one-half middlings, one-half scraps and one and one-half greens. Fifth week: The same, only two measures of green food. Sixth week: The same, only three-fourth measures of scraps. Seventh week: Three measures cornmeal, one measure bran and one-half measure middlings, or enough to make the food binding. One measure of beef scraps and two measures of cut green food. Eighth week: Leave out bran and add cornmeal and middlings, as this mixture will color the carcass up.

"The use of green food to excess will make the carcass flabby, or, as the market man says, "the ducks will not stand up." Avoid therefore the greed stuff prior to killing, and feed cornmeal and middlings as much as possible. Fresh fish are excellent as an appetizer, but care must be taken,

or the meat will have the flavor when dressed. It should be discontinued at least fourteen days before killing. Fresh fish are fed best in a raw state at noon, when they may be thrown in the water to the enjoyment of the duck tribe. If too large to be consumed raw, boil in a feed-cooker and mix the entire mess with the feed. If fish can be had regularly, it is a very desirable addition to the ration, especially as the beef-scrap bill is saved,



OLD VARIETY OF BLACK EAST INDIA DUCKS

from a photograph by C. Reed

but if fed only once in a while, it is better not commenced, as the ducks will worry and long for their fish and lose their taste for meat.

"Celery seed is a great flavor-giver. The Atlantic Farm and others have tried it and found it a paying venture. The seed is purchased from the wholesale seed stores and can be had for about 17 to 20 cents per pound. Celery stalks, chopped fine, are claimed to impart also the desired mellow flavor peculiar to the wild duck, the canvasbacks especially."—From *Fager's World Market Ducks*.

HOW TO CARE FOR DUCKLINGS

Mr. C. C. Richards says: "After the ducklings are hatched, they should remain in the incubator for twenty-four hours." [Here I would remark

that I have found the best temperature for ducks hatching was 101° at first, rising slowly to 104°, and I have hatched strong birds at 105°.] "They should be removed in brooders, about 100 in each, after which they are fed and watered for the first time. They must not be allowed to become wet or chilled, and, after feeding, must all be driven back into the brooder. In the course of a few days, they become accustomed to their surroundings, and give no more trouble in this respect. Their food during the first week consists of equal parts of cornmeal and wheat bran, mixed to a crumbly mass with either water, whole milk or skimmed milk. They should be fed on this mixture every two hours, no more and no less than they will eat up clean. During the five following weeks, they should be fed four times daily on equal parts of wheat bran, cornmeal, and ground oat feed; five per cent. beef meal, five per cent. grit (these last two are highly essential), and some green stuff, such as cut rye and chopped cabbage.

"The seventh and eighth weeks they should be fed three times a day with equal parts of cornmeal and wheat; ten per cent. beef scraps, five per cent. grit, and plenty of green stuff. From this time forward until the tenth week, they should be fed three times daily, two-thirds cornmeal, and one-third wheat bran; ten per cent. beef scraps, five per cent. grit, and very little green stuff. At this age, with the above method of feeding, the young ducks should weigh from five to six pounds each, and be ready for the market."

Here, it will be observed that both meat and grit form part of the duckling keep, and it has been abundantly proved that when ducks, or even chickens, are reared in a confined space and in numbers, they are most essential factors in their well-doing; but when grown on the farm and allowed to range, they are seldom resorted to, as it is thought, and perhaps with a degree of truth, that from such feeding the flesh is not so delicate in flavor. Still, meal and grit are used with great effect in producing both fowls and ducks of a larger and a quicker growth, though this kind of diet often has a peculiar effect in forcing cockerels into abnormal or premature fecundity, and enlarging the wattles and combs beyond the limits of beauty.

In the *American Reliable Poultry Journal*, Vol. VI., page 49, a remarkable experiment is described as proof of the value of animal food, and the size and vigor obtained by its use. Two pictures are given of duckling pens, by which the results are at once apparent. (See pages 1088 and 1089.)

S. Fred Haxton, in the first place, gives an account of feeding on whole or ground grain, which was the farm-plan in England as long ago as my childhood, and which I have unceasingly advocated—in most cases with little or no effect. But, later, Mr. Haxton shows that there was a difference in favor of the ducks fed on meal over those reared on grain.

He gives an example, also, of two pens, one fed on grain, etc., only, and the other with the addition of animal matter. It is of such value that I do not hesitate to give it, believing that he will courteously pardon my transgression. He says both lots were the same in number and size, but pen one was fed on no animal food except the little contained in skimmed milk, which was fed to both lots. Pen two was given a good portion of animal matter in the form of animal meal in its ration. Both lots were fed all the grain they desired, and were given alfalfa clover in abundance. The result was: "That a smaller number was seen in pen one, due to the fact that the lot had been very unhealthy, and several had died, while those of pen two remained healthy to the end. This would be likely, because the duck feeds largely on worms, insects, grubs, etc., which it finds while ranging at dusk and after dark."

The value of meat in the food given to poultry kept in confinement is so well known as to need no further proof; but one was scarcely prepared for the same testimony in regard to ducks. But even this process, good as it is, must be regulated by experience and discretion.

DRESSING AND SHIPPING

The following up-to-date manner of dealing with scalded ducks is described by G. A. McFetridge:

"Young ducks should be kept up in weight until ten weeks old, and should weigh at least four and one-half pounds, dressed, at that age. With proper care in feeding they will weigh six pounds apiece. Separate those which you wish to kill from the rest. Do not feed anything the day before killing.

"*How to Kill Ducks.*—Plant two posts in the ground, about ten feet apart. Either mortise the posts or saw a notch in them near the top, five feet from the ground. Then spike a rail in these notches, and fasten strings to the rail with loops to hold the feet of the ducks. Drive as many pegs in the ground underneath the rail as there are strings. To these fasten a short piece of wire. Bend the top of the wire in the shape of a

hook, and put this hook in the duck's nose. By doing this you prevent the duck from swinging its head around and soiling its feathers with blood. Then, with the large blade of a pocket-knife (the blade should be three inches long), make a cut crosswise back in the throat, and another up through the roof of the mouth to the brain.

"As soon as the ducks are dead, have a pail of water ready, and wash



from a photograph by Hedges

PRIZE MODERN ROUEN DUCK
Bred and owned by the late Joseph Partington

all clots of blood from their mouths, a corn-cob being the best thing to do it with. Wash their feet clean. Have the water for scalding, which should be at the point of boiling, ready at hand. Ducks are much harder to scald than chickens. Take hold of the head with one hand, the feet with the other hand. Do not allow the beak or feet to get into the hot water, as it will take the color from them. Do not wrap them in blankets as some advise, as it will give the flesh a pale, sickly appearance, but go to picking as soon as the feathers are cool enough.

"Begin on the breast-feathers and get them off as soon as possible. Leave the feathers on the head and about three on the neck; also leave flights in wings and the tail-feathers on. In picking, try to catch the down and feathers at the same time, and pick clean as you go.

"When done picking, plunge the ducks in the hot water to give them a plump appearance, and then put them in ice-water having some salt in it. Leave them in this water until they are thoroughly chilled through; then pack for market.

"A flour barrel is the best thing to ship them in. Weigh the barrel first, then pack the ducks, and weigh barrel and all. Crush ice fine and put that on top of them. Put burlap over the top of the barrel and fasten with a hoop. In packing, keep the feet straight back and turn the head under the wing. By putting the ice on top, the cold water passes down through the packed ducks and keeps them all cool.

"Ducks dressed and packed in this manner can be shipped 400 miles."

All of Long Island's ducks are scalded, as New York has no preference for dry-picked over scalded products. Boston inclines to favor dry-picked ducklings, and they are preferred where storing is often resorted to.

STANDARD VARIETIES OF UTILITY DUCKS

THE CHINESE OR PEKIN DUCK

It is now (1905) nearly thirty-five years since the importation of these ducks from China. Anything new always attracts, and there was at that time a grand flourish as to the unusual culinary properties that the Pekins possessed. As "egg-machines," they were said to be wonderful; their habits domestic, and their flesh of fine and good quality. This was their character on arrival in this country, and so, of course, the Aylesbury and the Rouen were put aside, comparatively speaking, for the new comer.

When first imported they were not white, but a beautiful light color, between canary and nankeen; and, furthermore, many of the drakes had manes, giving them a very novel and pretty appearance, which I myself greatly admired. But this novelty did not meet with the approbation of some who were set up as judges of ducks, and these crested beauties were continually passed over, until it was found there was nothing to be gained by exhibiting them. Thus this rare variation was bred out, and it is difficult to find any of the old and true, as imported.

The Pekin, as generally known, thanks to the "Fancier Judge," has now no crest. It is upright in carriage, long and narrow in the body, in comparison with our grand, old white Aylesbury, with which it has been so crossed and intermingled that it would be difficult to find a stock that is pure. Not only have the mane and crest been eliminated, but the lovely yellow tint of the plumage is by no means what it was. Much of this may be attributed to locality; on some soils, even the common English white ducks assume a kind of primrose-yellow plumage.

It is claimed for the Pekin that it is an earlier and more prolific breed than any of the British, but even its greatest admirers assert that it lays 100 to 150 eggs in the season—by no means an unusual number, as will be found by reference to the number proved to be laid by the white Aylesburys and Rouens, given in the description of these breeds. It has been creditably stated that some white Aylesburys have not only begun to lay very early, but have, during the laying months, exceeded the number of 200 eggs.

Still the Pekin duck is deservedly popular, for it is very profitable, the ducklings growing fast, though not more so than the Aylesbury, as already shown. Pekins should weigh at least four to five pounds when nine weeks old, but, if the strain be good, will far exceed that weight. As a rule they are not so plump and full breasted as the true, pure white Aylesburys with which they have been crossed—much to the detriment of the latter. Both are good table birds, both grow to a large size and are of fine quality, though different in flesh and flavor, and are far better, therefore, kept pure, each breed having its own points of excellence. I am loth to admit that the true, old white Aylesbury has its equal; being one of our oldest, and to my thinking, though opinions differ, the best of domestic ducks, all things considered.

The Pekin is the favorite duck of America, where it is reared in large numbers; one reason being that the color of the skin and flesh is somewhat yellow, and therefore considered to have a richer and fuller flavor. They are non-sitters—another point in their favor. They begin laying in December, and continue to lay till August or even later. [As a proof of the early fecundity of Pekins may be cited a case on the Edelweiss Farm of New Jersey, where the writer saw on December 2, 1903, forty-seven little yellow balls four days old. The owner had two more machines full of fertile eggs, and was getting from 10 to 16 per cent. of eggs every day from his flock of 160 females. The ducks had been bred for years for

early eggs and early returns, and the rewards seemed to be in sight.] Five ducks are matched to one drake. During the laying season, they should be kept housed in an inclosure until about nine or ten in the morning. If let out, the eggs will be dropped as the birds walk about, and thus be scattered far and wide.

It is not necessary for them to have a pond to resort to daily, though one is of great service for enabling them to wash and cleanse themselves occasionally. They must, however, have plenty of pure, clean water for drink, so placed that they can only drink and not foul by getting into it. When laying, they must be well fed morning and night. Liberal treatment is found to be the most remunerative.

Care must be taken that they do not get fat or infertile, as fewer eggs will be the result. Some will be found to "take on fat" much more readily than others.

Pekin eggs require the same number of days for incubation as those of the ordinary duck; and the hatching is chiefly done by hens or incubators, the former preferred.

With the young ducks, one rule must be observed: avoid putting them in the full glare of the sun, as great heat is generally fatal. When twenty-four hours old, begin feeding. They may be fed on the same kind of food as the old ducks, with the addition of skimmed milk to drink. For the first two weeks, feed five times daily, beginning early in the morning, at such regular intervals as will allow equal space between meals; the next two or three weeks four times daily; then three, and so on until ready for market, which will be when about twelve weeks old. Feed in troughs with high divisions; give as much as will be eaten, but remove any food left. Green food, such as chopped clover, cabbage, carrots (boiled), lettuce, and grass, should be, when possible, mixed with the soft food. See that there is plenty of straw for bedding in the houses. Ducks cost much less to raise to a market value than fowls, and sooner realize a profit. It has not been found so advantageous to keep ducks for their eggs as for "duckling" raising.

At the time of writing, the two largest duck-farms in America are those of James Rankin, in Massachusetts, and Mr. Newman, on Staten Island, where the birds are managed and kept on scientific principles, economy combined with the best results. From these duck "manufactories," many tons of duckling are placed on the market, and realize remunerative prices.

Near Kansas City is another large duck-farm of about twenty acres, the proprietor being H. E. Moss. The duck-yard is well sheltered with large trees, having a good grass run besides. Here again the Pekin duck is kept to the exclusion of all other breeds, and gives the utmost satisfaction. Mr. Moss started with sixty ducks and twelve drakes, of the Rankin and Newman stocks. He made his own brooders and he uses incubators that have a capacity for 1,500 eggs, and his intention is to hatch about 5,000 to 6,000 ducklings during the season. His incubators hatch about 350 out of 400 eggs. He has a thermometer at each end of the incubator and keeps the temperature at 101 degrees for the first seven days, and during the second week at 103 degrees. Some of his ducklings at five weeks old weigh three pounds, which may be considered somewhat above the average. Cleanliness is one of the essentials both in chicken and duck rearing. Without it, or without constant attention, and regular times of feeding, it is vain to look for success. The last few items have been taken from the *Kansas City Packer*, in which the operation of Mr. Moss's duck-farm are given at considerable length.

Pekin ducks, to be considered eligible for showing purposes, must have clean yellow bills, free from black spots or streaks. The "bean" of the old duck is an exception to this rule, although black on the same will receive a severe cut, under the score-card system. The adult weight of the drake should be eight pounds, and of the duck seven pounds; the young of either sex are allowed to weigh one pound less. Black, red, or other colored feathers in plumage are disqualifying, and if feathers on shanks are found, these also prevent the bird from competing.

THE WHITE OR AYLESBURY DUCK

Formerly, these were called the English white, in contradistinction to the Dutch grays, blacks, browns, and the wild ducks, or Mallards. The neighborhood of Aylesbury was found to be so suitable for the breeding and rearing of ducks that gradually the name became associated with the variety, and they were generally known as "white Aylesburys."

The true white Aylesbury is in reality an albino variety of the ordinary duck in every way except the color of the eye, which is dark; but I have noted in some a decided red tint, when seen under certain conditions of light, and in others an opalescent gleam, both of which are consistent with the eyes of an albino. Though I have carefully observed upon every



PRIZE WHITE PEKIN DUCKLINGS.
The property of the late MR. HENRY DODGE.



PEKIN DUCK AND MIXED BREED DUCKLINGS

From a drawing by Harrison Weir

opportunity, I have never yet seen the pink eye of the albino, properly so called, but in all other respects the Aylesbury is one. The feathers are pure white; the skin, unlike all the colored ducks, is a delicate, light pink or white, with white fat; the bill has a white spot on the tip, and is a light, rose-tinted white; so are the shanks and the feet with their white toe-nails. It is hardy, an early breeder if properly tended, grows fast if well fed, has a good shape, an excellent flavor, and its white feathers are very saleable; in fact, it is the nearest to perfection of all our duck water-fowl. To these qualities must be added the whiteness of the eggs, which makes them more desirable for the table than the green eggs of colored ducks.

In and about the neighborhood of Aylesbury, some names have been known as duck rearers for generations. One of these is Weston, whose descendants still exist. In Rees' *Cyclopædia*, Vol. XXVIII., under the heading "Poultry," we find the name, and we still find it among the prize-

winners of the present time. In 1819, Mr. Weston advises the fattening of ducks on malt—a very old method. He says, “it is to be used of something less than a gallon per duck.” It has amazing success in fattening the birds when young, and causes the flesh to be very delicate. At Aylesbury, this breed is kept to the exclusion of all others, and is bred by every cottager or farmer. Eggs laid late in the year, or the very early ones, are eagerly bought up and set under hens, under ducks, or put into incubators. The outhouses, and even some parts of the house, are full of ducklings, when other kinds of ducks have scarcely begun to lay. The rearer collects worms, slugs, snails, and other insect food for his ducklings, which are fed with scrupulous exactness as to time and food. All those to be “fed on” for market are kept from the water, and given sloppy food—oatmeal and potatoes mixed in milk, and some boiled mangold—and they thrive fast.

In this vicinity, some years ago, a duckling was considered good if it weighed three pounds, but that weight has long been surpassed, and five and six pounds is now by no means uncommon. A single drake has weighed more than eleven pounds, and a duck ten pounds; but in such cases they are heavily fattened for the show, or shows, and not in stock or in store condition.

The show white Aylesbury is not such a compact, plump, tight-feathered bird as it was, having now a bagging of the skin that did not exist some thirty years ago. There is not infrequently a dewlap and loose skin on the breast and belly so large as to touch the ground, to the manifest inconvenience of the bird when walking. In some cases, this loose breast-skin gets so much in the way as to be actually trodden upon. I think, with proper judgment, the breed would never have arrived at a condition so opposed to utility and natural formation. In such cases, it is well to get, if possible, from some farm where the stock has been well kept, but not for “fancy showing,” a drake or two of the old, close-feathered type, and breed in with the show ducks. In the first broods, the advantage will be apparent, the ducklings being not only large, but growing and putting on flesh quickly.

The Aylesbury ducker seldom keeps many breeders, twenty to twenty-four being the usual number, and the proportion of the sexes is three ducks to a drake, with an odd duck or two thrown in “for luck,” as an old ducker once said to me.

I have had Aylesbury ducks lay what I thought was “well,” but the

following record, taken from the *Cottage Gardener*, 1853, put mine entirely into the shade:

"Mr. Edwards, station-master at the Lyndhurst Road Railway Station, Hants, has a couple of ducks of the pure-white Aylesbury breed, which have laid this season (October 16th) the prodigious number of 261 eggs. One of them laid in daily succession 146 eggs, and she is now running about with a brood of twelve young ones. The other laid 115 altogether, and she has her second brood, having brought up her first brood of thirteen early in the summer."

For hatching purposes, the hens are put into nest-boxes and baskets of all shapes and makes, from the cheese-box to the divided tea-chest, from the vegetable to the fish-basket; but all are kept carefully clean, and attention is given to rid them of any insect life. Incubation takes about thirty days, and sometimes less. When the eggs are under a hen, they must be slightly sprinkled with water every day from the twelfth to the sixteenth day; if the nests are on the damp ground, this is not needed.

The young, when hatched, should be left with the hen to dry and strengthen. The ducklings are first a primrose-yellow, which soon changes to a dirty white. After the little ones are a few days old, they feed well; then two or more hatchings are put together under one hen, who broods them all.

When ready for fattening for market, the ducklings are put into rooms, sheds, or some kind of shelter, but are not allowed to go to water. Each lot of about thirty is separated either by tarred canvas or boards. The floor is covered with barley or oat straw, and kept as clean and dry as possible, the straw being often shifted and a fresh supply put in. The food consists of boiled rice, oatmeal, and bullocks' liver, cut small. This is used for the first week or two, after which tallow grease, barley-meal and ground malt, all boiled, are put into the troughs. The birds are fed frequently and regularly, but are given no more than they will eat up at once. Horse-flesh and carrion are used by some, but not by the best class of feeders.

If reared for exhibition, where large size is required, the same routine is observed, but, when a month old, the ducks are allowed to go into water, and the food is varied with oats and barley, sometimes with maize; but the last should be avoided when raising for store or show, as it affects the liver, often tending toward disease or enlargement. The trough of water

should have grit or fine gravel in it, so that the ducklings, when dabbling, may get some to assist digestion. The drake is generally rather longer in the neck and body than the duck, and less broad. The second year he has two or more curled feathers on the upper part of the tail. The sex may be ascertained by the voice, which is faint and somewhat sharp in the drake, while the duck quacks.

As stated, the true white Aylesbury is nearly, if not quite, an albino, and as such lays a white egg. Those that occasionally produce eggs slightly green-tinted, usually, if not always, have light orange shanks and feet, while those of the pure breed are flesh-colored or a light pink, the bill being of the same, with a semi-opaque, waxy texture. Years ago it was contended that the bill might be a primrose pinkish color, but this was finally denied by the evidence of several of the old Aylesbury duckers, published in the *Poultry Chronicle*, 1855: "The reply from one and all is, that the pure duck should be long and broad in the body, the breast full, the legs strong and of a pink color, head large, and bill long, broad, and flat as possible, free from spots, nearly flesh-colored in the young birds, and more of a white in the adult; feathers close and white as snow all over. This account is from men whose opinions in this matter may be depended upon.—W. H. G."

The American Aylesbury requires a weight of nine pounds to the adult drake, one pound less to the adult duck, and one pound less again to the young of either sex. In all other points, we hold closely to the requirements of the English law, possibly excepting the color of legs and toes, which should be bright light orange.

THE ROUEN DUCK

This has been called the Rhone, and the Roan duck. Its origin is somewhat doubtful. Whether or not it is a hybrid, a variation of the ordinary wild duck or Mallard (*Anas boschas*), a cross with the large wild duck, which the Germans style *Grosse Ente*, *Grosse Wild Ente*, or a pure and simple being of the same color as the common wild duck or Mallard, only larger, has not been determined. One thing is certain, that it has been known and appreciated in France for more than a century, as the following will show: "This large, fine species answers so well in the environs of Rouen* on the banks of the Seine, only on account of its being in the

* "A Treatise on Poultry," 1810.

power of its keepers to feed with earth worms taken in the meadows. These are portioned out to the ducks three times a day under the roofs where they are cooped up separately; this is what makes those early ducklings so large, fat, and white, that are seen in the month of June." The above was written in the early part of the present century, and clearly points to the fact that the Rouen duck was merely "the wild duck enlarged by domestication and high feeding."

"It is usually from the month of November till February that they are brought to Paris, plucked and drawn, in order to keep better." This is contrary to the method of marketing in England, where the ducks are fasted only eighteen hours, killed, plucked, shaped, cooled, and then packed as they are. With the offal the bird is heavier, and unless well trussed by the French mode, it would not command such a high price; but, undoubtedly, by the "drawing," the body is better kept and in a sweeter condition for a longer time. In some parts of America, the fowls are sent thus to market; and in France this custom existed more than a century ago.

"The ducks of the large species," says a writer in the last century, "are finer in Normandy than in any other Canton in France. The English come often to purchase them alive in the environs of Rouen, to enrich their farm-yards and improve their degenerate or bastard species; they put them in inclosures in order to afford excessive luxury to opulence."

Edward Hewitt, of England, an excellent poultry fancier, whom I had the privilege of knowing intimately, was one of the first to draw public attention to the table qualities of the Rouen duck, which he considered a very remunerative breed to keep. He thus writes in the *Poultry Book*, 1853: "I am confident that, when purely bred, the Rouen is the most profit-producing of the duck tribe. They are the most lethargic, consequently the most speedily fed of any; but they lay great numbers of large eggs, an average weight of which would be three and a half ounces—always above three ounces. The color of the egg is a blue-green, the shell being thicker than that of the Aylesbury breed. The flesh is of the highest possible flavor." I may here remark that this depends upon the food with which the birds are fattened. If much animal food is used, the flesh is very dark, and in some cases unpleasant. But to resume: "The drake and three ducks belonging to the writer (Edward Hewitt), which were so successful for several consecutive seasons at the Midland Poultry Show, when weighed by the judges reached twenty-six and

three-quarter pounds; and this at a time when they were simply taken from the pond, without any previous preparation. On another occasion, when purposely fattened, they attained the almost incredible weight of thirty-four pounds. I have frequently known young drakes only nine or ten weeks old to weigh (when killed) twelve pounds the pair, and in some instances even more than this.

"In the color of the plumage in either sex, the Rouen closely assimilates to the common wild duck. The eyes, however, are very deeply sunk in the head; and the ducks especially, even when young, have the appearance of old birds, the abdominal pouch being developed, as in the case of the Toulouse goose, at a very early age. In some cases this enlargement of the lower part of the body causes it to rest partially on the ground—not infrequently to the destruction of the feathers. The whole appearance of the Rouen duck is certainly ungainly, but the most casual observer can hardly fail to be struck with the size of really good specimens of this family. Their dull, monotonous call is distinct from that of any other variety. A great diminution in size is the invariable result of any attempt at crossing, and this becomes apparent in the first generation. They are hardy as any other kind, and rarely evince disposition to wander from the immediate vicinity of the homestead." The editor adds, "Rouen ducks have been our own favorites for some years, and our entire endorsement is given to the above observations of Mr. Hewitt."

Mr. Punchard, who, with J. K. Fowler and E. Hewitt, was among the first in England to call attention to the larger size and excellent qualities of the Rouen, possessed a fine drake and ducks as far back as the "forties," and it was a pair of his birds that I pictured for the *Poultry Book* in 1852. They were kept on the farm at Haverhill, and treated quite as ordinary ducks. They were found to be early in egg production, beginning to lay even in the autumn months, and more or less often through the winter. Young ducks hatched in March commenced to lay about the end of August (1853), and gave three or four eggs a week until and after October.

The young of the Rouen when hatched have a yellowish-brown body, with patches of yellow upon the face, breast, and wing; a dark line passing along the side of the face above the eye. In fact they very much resemble young wild ducklings, though the markings are not so dark and rich. In a fortnight these colors become dull and indistinct.

In purchasing Rouen ducks, avoid light markings on the bill, face, and breast, and endeavor to obtain the plumage of the wild duck, but richer and darker if possible. Lastly, Charles Punchard observes, "I believe the plumage of the Rouen duck will become lighter as we breed 'in-and-in.'" (To this I dissent.)

Such was the Rouen duck about forty-five years ago. Since then it has risen and fallen both in the fanciers' estimation and in that of the public, who has, like the sailor, "one foot on land and one on sea, to one thing constant never." Yet the Rouen is a grand duck, and, as grown now, a still more wonderful bird than it was even thirty years ago. Careful selection, both in color and size, has worked wonders, and there have been fat drakes that have turned the scale at twelve pounds and ducks over ten pounds. This large size has been purchased at the expense of fecundity, and though still fairly good layers, they are now surpassed by other and more common varieties.

One noticeable thing is that like the Toulouse goose, the bagginess of the skin has been increased to such a degree, in both drakes and ducks of any age, and even in young birds, as to amount to positive ugliness. This is regrettable for the reason that, with proper selection of the breeding stock, it might have been avoided entirely, or at least not so grossly developed as it now is. As to color, there is a decided advance, the ducks, especially, being much deeper, richer, brighter and better marked. In rare instances the old claret patch on the breast of the drake has become far finer in tint, being almost a crimson, flushed with carmine; while on some specimens it has extended much nearer the belly than formerly, and the gray sides are now almost azure. Therefore it must be admitted that



Photograph by the Rhode Island Experiment Station
SHOWING STRUCTURAL CHARACTERS OF HEAD AND
MOUTH

an advance has been made both in beauty of coloring and in size, even if the fecundity is lessened, which it may not be in all cases. Taking the Rouen as it now is, it can be highly recommended as possibly the best large colored duck in existence.

In conclusion, I have noticed, not only with my own birds, but among those belonging to others, that the Rouen duck is by no means such a good forager as the white Aylesbury, and far less so than many of our ordinary farmyard breeds, being naturally dull, lethargic, and inert. Now that the frame is increased in size, the bird takes much longer to come to a meaty, marketable condition; even at nine or ten weeks old, being often little more than skin and bone. To have a Rouen in perfection, it should not be fattened until at least five to six months old. It must not be forgotten that in France this variety of duck was, and is, raised more for the growth of the liver than for the flesh of the bird itself. All other considerations have been set aside for the production of the largest size. In England it is valued almost as much for exhibition as for utility.

The American breeder requires Aylesbury weights in his Rouen ducks, and, for showing purposes, desires golden-bay colored, richly laced females. So far little progress has been made in the establishment of this noble breed at the head of the list as excellent market birds. The demand for show purposes and for individual kitchen consumption largely exceeds the supply. Few farms cater exclusively to the perfection of Rouens. Indeed, I remember but one that has found it profitable to replace Pekins with Rouens for the betterment of the city trade. At the exhibitions white in primaries or secondaries disqualifies, and any approach to a white ring on the neck of females also debars specimens from winning.

THE CAYUGA DUCK

The variety of duck to which this name has been applied is remarkable for its size, hardiness, color, the weight it attains, and the excellent quality of its flesh. Its origin is not positively known. "We first saw it," says the *Boston Cultivator*, 1862, "fourteen or fifteen years ago in Cayuga County, New York, where it had been bred in considerable numbers. In general appearance, except in being of a larger size, it closely resembles the Ceylon or East India duck, which we have seen in Europe. It is larger, on the average, than the Aylesbury, and nearly or quite as large as the Rouen. J. R. Page, of Cayuga County, New York, who has

bred these ducks many years, states that he has had them weigh sixteen pounds the pair at six months old. About the first of December Mr. Page killed some, the weights of which were as follows: Young drakes, eight pounds each, dressed; a young duck, seven pounds; five yearling ducks, from seven pounds to seven and a half pounds each. Mr. Page observes there is usually more or less white on the breast of these ducks, but he thinks they could be bred perfectly black. The quality of their flesh we know is excellent. They are unquestionably a very valuable variety."

This is the opinion of the Cayuga duck in America, 1862, and, judging from those that arrived in England many years ago, the property of J. K. Fowler, of Aylesbury, it is fairly correct, though the imported birds had much white on the throat and part of the breast, the rest of the body being a rich brownish black. The head, neck, and back, especially of the drake, was lighted by a brilliant, iridescent, emerald green, though not of the intensity that makes the East India duck so resplendently beautiful. But the Cayuga is much the larger, and it is well known that the smaller the bird the more brilliant the color. Smallness has been set up by some breeders as a point of excellence, when it is, as a matter of fact, a fault. Between two ducks of equal color, one the size of our Mallards and the other less, there would be no hesitation on my part in giving the prize to the former; but as now judged—more by color than by size—the lesser birds gain the honors, though what they have gained in coloring they have lost in utility.

By careful selection and in-breeding with the East India duck the color of the Cayuga duck has not only been improved, but the white has disappeared, and it has now the appearance of the latter's larger and longer form. To gain this end, size has been considerably sacrificed, and now, instead of being one of, if not the very largest of domestic ducks, it has become smaller than the ordinary farmyard duck.

The variety was evidently not unknown in 1855, for that eminent poultry fancier, B. P. Brent, writing in that year, mentions the larger Buenos Ayrean or East India duck. Even longer ago than the "forties" of last century, a large, black, white-fronted duck was well known and much valued in the south of England. When matured, it was of considerable weight, though by no means approaching that of the American variety. It was particularly hardy, a good forager and layer, and the

eggs of the usual duck-green. Crossed with the Rouen, or the larger, colored duck, they were not so good, but with the Aylesbury they maintained their size. In some instances they were blacker, in others nearly white, but mostly splashed black or white. In the feather competition that follows the poultry shows this variety has completely disappeared.

In contour the Cayuga is elegant, being longer than the East Indian, but carrying a fine full breast, small in bone, and having but little offal. The bill of the drake should be orange green, with a black spot at the tip, and the shanks and feet blackish purple, with an orange tint as an under-color. The bill and shanks of the duck, dark greenish orange, almost black; also orange as under-color. The ducklings are hardy.

The old birds are apt to fly of an evening, and when this is the case they are generally robust, strong, and healthy, and may be relied on for producing the best breeding stock.

C. W. King, one of the oldest breeders of this variety, gives in the following extract from *Water Fowl Guide* the reason why English breeders had to contend with white feathers on breast and neck. He also states truthfully, that the demand is now for a black bill, both in drakes and ducks:

"I have been a breeder of these noble birds for thirty-one years, and have shown them since 1871. The first show that had them was at Farmersville, N. Y., when the standard called for a full white breast free from a mottled appearance. The demand for a white breast at that time is the reason why we rarely find a bird that is entirely free from white on neck or breast. Let us persevere, however, and we shall get the breed as it now should be, a glossy all-black bird, that is a joy forever when the sunlight plays on its green sheen.

"The wild Cayugas stop in this section one month, on their return in the fall from the North, and again in the spring, when migrating from the sunny South, they remain with us for about the same length of time, feeding on bugs and grasses that abound in the adjoining fields. The wild birds are, of course, much smaller than the tame. They have a smutty, black appearance, a very long, graceful neck, short legs, and the drake has a green bill, as we often find in the tame variety. Now the majority desire black bills both for drakes and ducks."

In New York the Cayuga is also known as the "Black River Duck" and the "Lake Duck."

THE INDIAN RUNNER DUCK

This graceful and elegant variety, in its head, neck, and body somewhat resembles the Penguin duck, but it is less upright in carriage, longer in the thighs, legs, and shanks, and is a sort of intermediate form between that and the light almost lemon-colored Pekin duck, though of far less sturdy proportions. So much is it in general habits and appearance like the Penguin, the supposition naturally arises that the line of demarcation is but slight, and that the Indian Runner is but a variant, strengthened by selection from Penguin and Pekin. All three varieties have the same fecundity, all lay early, and produce a considerable number of eggs which are of a more delicate flavor than, though not so large as, those of our common domestic duck. Mr. Donald, of Cumberland, dates the introduction of the Runners about fifty years ago, and says that they were brought to Whitehaven from India by a sea-captain who presented them to some friends farming at that time in west Cumberland. He also states that another consignment was imported by the same gentleman some years later, and that it is from these that the present stock of Indian Runners is descended. This may be so, but they bear a remarkable resemblance to some that Mr. Cross had among his singular and scarce varieties in his rare collection on the lake in the Surrey Zoölogical Gardens about the "thirties" of last century, which were said by young Cartmel, the keeper, to be remarkably prolific. About the same time, some were in the possession of the Earl of Derby at Knowsley. But the perfection now attained by the breed is doubtless due to the persistent energy of Henry Digby, of "The Cosy Nook," Grimscar, Huddersfield. Writing in *Feathered Wings*, April 6, 1900, he tells how their beauty and usefulness were made known, and with what unmistakable favor they were welcomed as a profitable novelty and permanent gain among our small family of domestic ducks:

"During recent years Miss Wilson-Wilson, James Swales, myself, and others, have made special efforts to trace the origin of this variety, and if possible to import fresh birds of the original stock, but all in this direction proved futile until the end of the year 1898, when I succeeded in procuring and importing a trio from a fancier friend in Calcutta, which I am pleased to say has made a marked improvement in the quality of the stock. No serious organized attempt was made to popularize the species until the end of the year 1895. Before that, all endeavors

had failed to give it that attractiveness and popularity which its most sanguine supporters believed it deserved."

Toward the close of the year mentioned, Miss Wilson-Wilson and Henry Digby brought the variety under the notice of the Water-fowl Club with a view to drawing up a standard of excellence, and thus inducing a classification for them at the poultry shows.

The credit that first-class Indian Runner ducks were seen at any of the leading shows for many years belongs entirely to the lady named, for it was mainly through her instrumentality and generosity that twenty-one pairs of "Runners" were drawn together in November, 1896, at Kendal. From that time they seem to have pressed gradually forward in public estimation, for the reasons already assigned.

Henry Digby not only claims recognition for the beauty of the breed, but declares that they "surpass all other species of ducks as egg producers," and that experience proves their laying season to begin earlier and last longer than that of other ducks.

In this respect there appears to be some variation, a few being extraordinary layers, many very good, and others not above the average—220 per annum being the maximum, and about 100 being the minimum. This excellent record was often exceeded by the true old Aylesbury, which was also an early winter layer, with an annual maximum of 240 to 250 pure white eggs, and these of larger size. The present improved breed seldom exceeds 100, which are mostly green in color; while the common domestic barn-yard duck has been known to lay nearly 200 in the same time. It may be taken as a rule that an enlarged breed both of geese and ducks is almost sure to lose in fecundity, though there are exceptions.

Henry Digby, in drawing attention to their merits further says:

"No claim is made for the species on the ground of their fitness for marketable purposes," and no doubt with respect to the way they are bred in England he is right; but in America they seem to have improved in this particular, and are here and there considered a choice delicacy, with flesh and skin firmer in texture than those of the majority of species. The "Runners" are very active in their habits, capital foragers, and on an extensive run are able to find about three-fourths of their required food. They are not good sitters, nor are they often inclined to incubation, so that their eggs are generally put under hens for hatching, or into incubators. The ducklings are not more difficult to rear than the young of the wild duck and Mallard.

It should here be observed that the duck does not usually, if at all, brood or cover its young like a fowl. The latter has spaces or feather channels up which the chickens creep, to have the advantage of the bare warm breast of the hen, while they are divided from each other by lines and walls of feathers through which air percolates and gives a natural ventilation and breathing space. The breast of the duck, being uniformly covered first with down, then with feathers, does not afford the same facilities for hovering or breeding the young, so that the ducklings are mostly grouped beside the mother duck, or under her outstretched wings. They also wander farther than the hen and chickens usually do. This is especially the case with Indian Runner ducklings, that quickly roam far and wide in search of insect life, which, if plentiful, materially contributes to their growth, health, and welfare.

The golden hue of flesh and skin in the Indian Runner duck is rather against it in England as a table-bird, but in America it is considered a point in its favor. Consequently in the latter country it is gaining a reputation for this particular quality, coupled with more than ordinary high flavor. R. B. Dayton, of New York, makes a specialty of the Indian Runner. He has much improved the breed in size and hardihood and has raised it to the profitable position of a good market duck. In the *American Reliable Poultry Journal* for April, 1900, page 207, he gives his opinion: "The 'Runners' are particularly adapted to the market poultryman's needs, as their wonderful laying qualities insure an almost constant supply of eggs. Their small size, when first introduced into this country, was against them; this, however, by careful selection, has been almost entirely removed, so that now a pair ready for table, or rather, dead and plucked, will weigh ten and a half pounds, with rich yellow flesh very firm in texture, and full deep breast." This, it must be admitted, is not only a good marketable weight, but quite large enough for the ordinary diner, and, furthermore, the flesh is of a finer quality than in the larger, which are erroneously considered better on that account.

The form of the Indian Runner is peculiar, the head being narrow and very long, while the bill is of unusual length, somewhat straight, and nearly the same width throughout. There is no indication whatever of a dewlap, now so common in most domestic breeds. The throat, on the contrary, is contracted to an unusually small size, until about half the length of the neck, where it gradually enlarges in graceful lines towards the

breast and shoulders. The girth at the latter is about the same as that of the body throughout. The legs to the hocks are short, the shanks are of medium length, and the walk and carriage much resemble that of the original Pekin duck, though the Indian Runner is far more refined in character and habit. Now that the size has been sufficiently increased to make it of marketable value, not only useful but desirable, it deserves, and possibly will receive, greater attention than its former limited merits claimed. As they generally breed true to their markings, or with slight variations, these being in bright colors, a flock out foraging, trooping across a green meadow, or lying close together to bask in the sun, is both attractive and charming. As ornamental water-fowl they take precedence over some species that have hitherto been the most admired.

In America, experiments have been made as to which it is the more remunerative to rear, chickens or ducklings, both hatched in incubators and then placed in the same class of brooders. The results achieved by R. B. Dayton are described in the *Reliable Poultry Journal* of the date and page before mentioned. He says: "After a close study of the Indian Runner ducks it seemed feasible to us to grow them with broilers, and a trial was made. The brooder used was one in constant use in a broiler house, with a capacity of 1,700, the heating apparatus being of the regulation type of hot-water heater, regulated to a temperature of about eighty-five degrees. One hover was used for the experiment, and the temperature was regulated solely with regard to the broilers, of which the house contained at the time about seven hundred. The temperature of the room outside of the hovers varied from seventy degrees on clear warm days, to as low as forty degrees on others. The results obtained were far above our expectations. The same food was given to the little Runners as was fed to the chicks next door, and a fountain, such as was in use with the chicks, served them for drinking. In fact, as far as it was possible, the same conditions were observed in all parts of the house. It was soon an evident fact that the chicks were beaten on their own ground, for the little ducks demonstrated that whatever might be the requirements of the ordinary ducks, these Runners had just what they wanted, and they proceeded to grow. It is too early as yet to say what the market price will be, but they are now much heavier than chicks of their age, and they are still growing. So far as we have been able to observe, they eat no more than chickens of an equal age, and from present indications they will weigh several times as much when dressed for market."

E. Briggs, of New York, sums up the American breeders' views in stating: "After two years with the Indian Runner ducks, I find them great layers, beginning in January and keeping it up until August. They are truly named Leghorn layers of the duck family. I find them very quiet and harmless on lawns, and they do much better running at large, as they do not stand confinement well. The young thrive much better if given free range after three weeks old. They are a fine table duck, far surpassing the noble Pekin in this respect. They weigh from eight to nine pounds a pair at ten weeks old, have a very heavy breast, similar to that of a chicken, and are much sought after in our private trade. In beauty they cannot be surpassed. They consume one-third less food than the Pekins. I specially recommend them as layers, and a grand table duck."

BLUE SWEDISH DUCKS

This is one of the rarest of colored varieties. It was lately admitted to the American list of standard birds, and I here give a reprint from the Exmoor catalogue, which contains all that is known of its history:

"The Blue Swedish Ducks are so called from the fact that German poultrymen first saw them in Neuvo Pommern, which at that time was a part and parcel of Sweden. In consequence they have a perfect right to their name, especially as it has the sanction of age. Living witnesses bear testimony that the Blue Swedish Ducks were bred there as far back as 1835, a great many years prior to the introduction of Rouens or Pekins. German poultry shows have had classes for Swedish ever since the fanciers assembled to compare birds. Is it not, therefore, somewhat amusing to read the statements of Belgian poultry writers who claim the Swedish to be a product of the Dutch? More probable is it that the Dutch, recognizing the great market value of Swedish ducks, imported them in olden times, and have been so busy making money out of the quick-growing ducklings ever since that they now think this good duck must be their own make. It is human, we admit, to claim a good thing, but for the sake of truth let the originators have the credit. We all, Dutch as well as Americans, are reaping the profits. The name has been given, and the name alone is not worth one copper; therefore let the Swedish be Swedish. People differ regarding their origin, but the generally accepted view at the present day is that German farm ducks crossed with the old-time French Rouen and recrossed with wild Blue Teal drakes have produced

them. Mr. O. Henning of Germany thinks them an old and pure breed, as they were bred and used long before Rouens were known. His father, a large land-owner, bred them in the fifties, and he received the old stock from his father during the first years of the last century. Later on, to enlarge the carcass, he crossed the females with the largest drakes, pure Rouens, that he could buy in France. From this fact may have come the saying that the Swedish contain Rouen blood."*

That the Swedish are or were well known in other countries is proven by a letter received from H. R. Nelson, of Minnesota, who says: "I noticed that you [Theo. F. Jager, Connecticut] breed the Blue ducks. I have for many years been a great fancier of rare breeds, and have wondered often why we never see this beautiful duck here, which thirty-five years ago I remember was quite common among the farmers of Denmark. Both the blue and the buff were nearly as plentiful as the common gray are here, and I think the same must abound in many parts of Europe."

Against the claim of several Belgian breeders to the origination of this variety, I cannot refrain from placing the accounts of residents of Sweden, who actually have known and bred the Blue ducks. I myself have seen them in that country, while hunting near the fjords and mountain streams. A New Yorker, born in Sweden, at a recent show in his adopted city, was delighted to behold the ducks of his old home, the Blue Swedish. He had bred them when a boy, and as far as he was able to state, his grandparents had also bred them. It may be true that Belgium leads to-day in their breeding, but as to their origin, Sweden's claims rank first.

Let America do with them what it has done with other breeds, and ere long more Swedish ducks will be found in the States than in the balance of the world. We are apt to recognize the good points in a thing, and we have the ability to make it our property, if not already our own. Our twentieth century enterprise will soon launch the Swedish or Belgian duck upon the public as an American favorite.

Swedish ducks appear in several shades of coloring: a dark or navy blue, which is called "steel blue," the "sky blue," and lastly the "jet black."

A pair of these steel-blue birds were shown at a recent New York show and created much attention. The sky-blue specimens

*I imported the first of these birds into America from Germany and Denmark.—T. F. J.

are in great demand in Germany, while Belgium has them in all shades, no particular color being favored. The jet-black are to some extent like the Cayuga. If it were not for the white bib, that always must be there, and the plump, distinctly Swedish type, they might be misnamed Cayuga. The latter has so far a very weak hold on our home fanciers.

I give here the German standard, in vogue there for over twenty years, and now accepted by American breeders:

SCALE OF POINTS		REQUIRED WEIGHTS	
Typical Carriage	10	Adult Drake	8 lbs.
Weight	25	Young Drake	6½ lbs.
Condition	10	Adult Duck	7 lbs.
Head	5	Young Duck	5½ lbs.
Neck	5		
Back	10		
Breast	15		
Body	10		
Wings	5		
Tail	2		
Toes and legs	3		
		100	

DISQUALIFICATIONS

Wry tails, crooked backs, twisted wings, entire absence of white in breast, feathers of any other color than the ground color covering more than one-fourth of the plumage, yellow legs.

SHAPE OF DRAKE AND DUCK

Head.—Long and finely formed.

Bill.—Medium size, the outline nearly straight when viewed sidewise.

Neck.—Long, slightly curved.

Back.—Long and broad, a slight concave sweep from shoulder to tail.

Breast.—Full and deep.

Wings.—Short and carried closely.

Tail.—Slightly elevated, curled feathers in that of the drake.

Legs and Toes.—Thighs short and stout, shanks stout, toes straight, connected by web.

Carriage.—Nearly horizontal.

COLOR OF DRAKE AND DUCK

Eyes.—Dark hazel.

Legs and Toes.—Red brown to gray black, the first color preferred.

Bill.—In drakes green-blue, in ducks black.

Breast.—The front part covered with pure white feathers, called the bib, forming a heart-shaped spot, about three by four, often extending to the bill.

Head.—In drakes, dark lead-blue, approaching black, having a green sheen. In ducks the same as ground color.

Plumage.—Even steel-blue all over.

Wings.—The two main flight-feathers pure white, balance of wing in uniformity with general plumage.

The following, from Mr. Dunmire, of Iowa, explains why this variety has grown so rapidly in public favor from the Atlantic to the Pacific:

“It is a well-known fact that Western fanciers are on the eager outlook for any new and meritorious breed of fowl. The readiness with which they have taken up the Swedish duck is further proof of this. The acknowledged hardness of the breed was attractive to them, as their trade called for a utility fowl, and one that could stand hard conditions if need be. The novel and striking beauty of their plumage was another strong point in their favor. The pleasure and reward of sharing in the moulding of a new breed, bringing it up to a standard form, and placing a fowl of such merit before the public that its acceptance would be certain, appealed to several breeders who are now backing the Swedish in the West.

“The Western breeder is buying the best of the East, is throwing his skill and effort equally into the upbuilding of the breed and the advertising of it with all the spirit called ‘Western push.’

“To the fancier, breeder, or farmer no duck offers such chances for money making. The excellent quality and flavor of the flesh makes it a prime market fowl which will be sought in the stalls so soon as the public is fully acquainted with it.

“Breeding stock is being eagerly sought. Let every breeder of water-fowl add this duck to his yard with a certainty of profit to come from a growing demand. Let him also add his name to the list of members of our specialty club, and take up the development and promotion of this most promising of new breeds.”

THE MUSK, OR MUSCOVY DUCK

"The epithet 'Musk' has been given to this duck because it exhales a strongish musky scent, owing to a humor that filtrates from glands placed near the rump. To take away this musky smell from the flesh, the rump must be taken off, and the bird decapitated as soon as it is killed. It is then very good eating, and as succulent as the common wild duck.

Although this species is commonly called the Barbary or Guinea duck, it appears in a wild state in South America only. Marggrav has observed it in the Brazils; but it is also a native of Guiana. It perches in tall trees, builds its nest there, and when the young are hatched the female takes them one by one and throws them into the water. The laying takes place two or three times a year, and each is from twelve to eighteen eggs, quite round and of a greenish white. Their moulting begins in September, and is sometimes so complete, as with our Mallards, that the ducks find themselves destitute of feathers, are unable to fly, and are thus taken by Indians.

When domesticated, they have peculiar habits, mine not infrequently taking flight to the top of the house, where they range themselves along the roof-ridge in a row, and doze for an hour or so; or they perch on the hay-ricks, barn, cow-houses, or trees. Being strong and quarrelsome, they are scarcely fitted for mixing indiscriminately with other poultry, though, if home reared, there is much difference in this respect.

The drake will pair with the common duck, but the mixed breed does not again breed *inter se*, though they are said to pair with the common species.

Mr. Carpenter, of New York, gives an interesting description of both varieties here recognized, the colored and the white:

"The drakes are much larger than the ducks, weighing ten or twelve pounds, while the ducks weigh six to eight. They are more like a wild duck or goose in flavor than any other duck, and will also hold their condition longer than any other. They will be found always ready for the table without extra feeding. There are two standard varieties, the colored and the white, the colored being the more popular and the handsomer. They should conform to the following description. Head rather long and in the drake large, the top covered with long crest-like feathers, which are readily elevated or depressed by the bird when it becomes excited or alarmed; in color the head should be glossy black and

white, with dark horn-colored bill, rather short and of medium width, head and face should be covered with bright red carbuncles, the larger the better. Neck of medium length and well arched, color black or black and white, black predominating. Back should be long, broad and somewhat flat, with long, lustrous blue-black feathers. Breast broad and full, and body long and broad, in color lustrous blue black, and black and white. Wings very long and stout, coverts with lustrous green black. Tail rather long, with an abundance of stiff plumage, and in color black or white. Thighs should be very short and large, and black or white. Shanks short and large. Toes straight, with strong nails and dark lead or black in color. The white variety should be a pure white throughout, free from any yellow tinge; pinkish flesh-colored beak, blue or gray eyes, and pale orange or yellow shanks and toes. If those who want the finest duck there is for the table, as well as one of the oddest and most ornamental, select the grand old Muscovy they will rejoice."

NON-STANDARD UTILITY DUCKS

The Penguin Duck.—This is one of the most peculiar and remarkable of the duck tribe. Its long, thin head on a long, thin neck is set on a long, thin body. The extraordinary uprightness of its carriage is accounted for by the thighs, legs, and shanks being excessively short and placed so far back that the bird is obliged to carry itself erect to enable it to walk, and it can run with some degree of rapidity. Thus in shape, color, and action it much resembles what is now called the Indian Runner duck. It is a good layer, and interesting as an ornamental variety, but like the Indian Runner it is far surpassed for table purposes by the true white Aylesbury, the Rouen, and the Pekin. Many of the last-named have somewhat of the upright carriage and the quick waddling gait of the Penguin, but the latter, though long, is of thicker girth and shorter in the head and bill.

The Duclair Duck.—Duclair ducks have the size and shape of Rouens. The plumage is reddish black, even throughout. A red sheen covers head, neck and shoulders. The breast is pure white, and this color sometimes extends to the lower body. Colors must be always distinct; a running over and mixing of red, black and white is not permissible in a show bird. The two largest flight feathers should be pure white.

ORNAMENTAL VARIETIES

The Black East Indian in shape and habit closely resembles the English wild duck (*Anas boschas*), but will bear confinement in moderately small runs or inclosures, in this respect differing from the English race. They have the meaty breast combined with the delicious flavor of the Mallard and are abundant layers.

The head is small and neat, the neck slim, the body rather short, but full and boat-shaped; the bill of the drake is a deep orange green



GROUP OF COMMON DUCKS

From a photograph by C. Reid

with a purple bloom over it and a black spot at the apex; the shanks and feet are purplish black. The whole color is an intensely rich brown-black, covered throughout, but particularly on the head, neck, back, wings, and tail, with a brilliant metallic luster and sheen. The duck is somewhat less bright in color, with the bill, shanks, and feet black.

Americans value the East Indias mainly for their smallness. With Englishmen it is a purely ornamental, and, owing to its rareness, a very high-priced variety.

They can be kept without a pond if a good-sized earthen pan is pro-

vided for them to dabble in. The eggs may be hatched under a hen, or in an incubator.

THE CRESTED WHITE DUCK OR THE TOP-KNOTTED DUCK

This specimen is of very ancient origin, and doubtless was a freak of nature in the first instance. They may be seen in many of the old Dutch paintings, some almost black, while others are pure white—splashed markings on a white ground being most common.

Some of the best I have seen were in my own possession, having very large top-knots—the drakes especially so—well covering the head. These top-knots were composed of long, full-sized, rounded feathers growing from a considerable fatty excrescence on the top of the head, though somewhat toward the back. In not a few cases this was loose, almost pendulous in character, while in others it firmly adhered to the skull. In no instance was the bone in any way altered from that of the ordinary duck. The eyes were somewhat larger, and the bill rather shorter than that of the Mallard, also broader and more rounded at the tip. They were of medium length, thick in girth, lively and quick in their movements, the ducklings especially being excellent fly-catchers. They were plentiful layers of fair-sized eggs of a light bluish-green. My birds were very handsome in color, the drakes being of the bright Mallard hues, splashed with white; the ducks mostly dark gray, with white about the head, neck, and breast, some being black with white fronts.

Only one color—white—is recognized among American breeders, and other colored feathers in any part of the plumage disqualify the specimen. The color of legs and bill should be a rich orange and the “bean” of the duck should be free from black spots or stripes. In weight, the Crested White Ducks equal Indian Runners. To the detriment of the variety, it must be said that a large crest, evenly carried, generally heads the winner, even if other more highly counting body points are lacking.

THE DUTCH DWARF DUCK, THE CALL DUCK, THE DECOY DUCK

The English Decoy duck differed but little from the ordinary Mallard, either in color or shape. Those that were a cross between the wild and the tame farm duck varied in color, many being splashed with white, and others fawn color, while some few were ash color, and thus easily recognized by the fowler if they accidentally got netted. To

such an extent did this inter-breeding occur that the Dutch "invented" a smaller and different-shaped variety, which was imported to this country and known as the "Dutch Call Duck," chiefly in two colors, that of the Mallard and the pure white. They prefer nesting out, and make a large pile as they incubate, until the duck is almost hidden by the continuously collected materials. The young, when first hatched, are very small, but they grow quickly, and after the first two or three days are particularly active. They must be kept from water, and on dry ground, wet and damp proving highly detrimental, if not fatal, while equally so are the glare and heat of the mid-day sun. Though small, they are undeniably of the highest quality for the table.

The Mallard-colored Dutch Call Ducks are charming both in form and size, but the white, when really good, with full Dutch boat-shaped bodies, short necks, short, rounded heads with short bills of a deep bright orange, and short, equally bright-colored shanks and feet, have a truly lovely appearance.

Their food should be the same as that of the wild duck, and similar localities are suitable for their well-being. They will and do, however, thrive almost anywhere, even with only a small pond to bathe in. They are good foragers, eat much vegetation, especially the softer parts of many of the marsh or water plants, and in this way gain almost sufficient food, especially during the spring, summer, and autumn months. Unless confined by fences and pinioned, they are somewhat likely to get lost by wandering or by joining flights of Mallards or wild ducks that chance to be passing.

THE WILD DUCK OR MALLARD

The following excellent description of the wild duck, or Mallard, is taken from "The Ornithology of Francis Willoughby," translated by John Ray, 1678, Book III., page 371:

"It weighs thirty-six to forty ounces, being about twenty-three inches long, measuring from the top of the bill to the end of the tail. The wings stretched out reach thirty-four inches. The bill is of a greenish yellow, from the angles of the mouth is two and a half inches in length, and about one inch in breadth, not very flat.

"The upper mandible has at the end a round lip or nail, such as is seen in most birds of this kind.

"The lower eyelids are white; the legs and feet are saffron color; the claws brown, but that of the back toe almost white; the inmost fore toe is the least.

"The membranes connecting the toes are of a more solid color than the toes. The windpipe at its divarication has a vessel we call a labyrinth.

"The legs are feathered down to the knees. In the Mallard the head and upper part of the neck are of a delicate shining green; then follows a ring of white, which yet fails of being an entire circle, not coming round behind. From the white ring the throat is of a chestnut color down to the breast. The breast itself and the belly are of a white ash color, bedewed or sprinkled in like manner with spots. The middle of the back between the wings is red, the lower part black, and still deeper on the wings, with a gloss of purple. The sides under the wings and the longer feathers on the thighs are adorned with transverse brown lines, making a fair show; in them the white color seems to have a mixture of blue.

"The lesser rows of wing feathers are red. The long scapular feathers are silver-colored, elegantly variegated with transverse brown lines. In each wing are twenty-four quills, the outermost ten of a dusky or dark brown; the secondary have white tips, and their outer webs are of a shining purplish blue color; but between the white and the blue intercedes a line of black. The tip of the twenty-first is white, the exterior web of dark purple; the middle part of the twenty-second is a little silver-colored; the twenty-third is wholly silver-colored, yet the edges on each side are black; the twenty-fourth is likewise of a silver color, only the exterior border being black. The outermost covert feathers are of the same color as the quills; but those immediately incumbent on the purple-blue quills have black tips, and next the tips a broad line or crossbar of white, so that the blue spot is terminated with a double line, first black, and above that, white. The tail has twenty feathers ending in sharp points; the four middle of these are reflected circularly toward the head, being black with a gloss of purple; the eight next to these on each side are white, especially the outer ones; and on their exterior web the nearer to the reflected ones the greater mixture of brown have they. The covert feathers of the inside of the wing and the interior bastard wing are white."

The female has neither green head nor ringed neck, but is part-colored—white, brown, and dark red. The middle parts of the back feathers are a dark brown, the edges a pale red.

The wild duck generally builds its nest some distance from the water, and seldom leads its young to it until they are a few days old, and sufficiently strong to swim without tiring.

THE WHITE WILD DUCK

In response to my inquiries, Mr. Charles Ambrose gave me the following valuable information regarding the variety: "On our Fen farms we bred a great many duck and Mallard, and about seven years ago I managed to get a white drake (Mallard) in the same way that a white sparrow, or blackbird, or starling, occurs now and again. I put this, pinioned, with two Mallard ducks and bred from them, getting only two per cent. white the first year. This year (1899) I have got them to breed all pure color for the first time; but during the previous breedings they did not breed any odd colors, they were either the old Mallard color or pure white. I have now 200 pure white."

The duck is rather smaller than the ordinary kind and of the same form; feathers and down clear white. But it is not an albino, for the bill is a light orange, showing a slightly gray transverse mark between the nostrils and the end; the sides rather inclined to carmine tint, especially on the lower mandible, the "bean," at the point, whitish. The shanks, feet, and toes—the latter long and fine in form—are orange color, and the toe-nails also orange, but with a darker stripe down the centers; the webs of the feet are thin and delicate, and of the same color as the toes. Its flesh is very much lighter in color than that of the common Mallard, being a delicate pink, and when cooked the flavor is delicious.

THE WOOD DUCK

This duck is sometimes called the Carolina Duck; in the North it is called the Summer Duck. It is found in nearly every section of North America, in the southern portion in the winter, migrating to the north in the summer. It is bred for its wonderful beauty. Its name is derived from the characteristic of building its nest in a hollow tree. Its eggs are small and smooth on the surface, like polished ivory.

The drake is about twenty inches long, with a green head, glossed with purple and surmounted with a pendent crest or plume of green, bronze and velvet; the upper part of the throat is white, the breast chestnut, the sides yellowish, with black, white, purple and blue in bands, spots and shadings.

Wilson says: "The Wood Duck seldom flies in flocks of more than

three or four individuals together, and most commonly in pairs or singly. The common note of the drake is *peet-peet*; but when, standing sentinel, he sees danger, he makes a noise not unlike the crowing of a young cock—*oe-eek oe-eek!* Their food consists principally of acorns, seeds of the wild oats and insects. Among other gaudy feathers with which the Indians ornament the calumet or pipe of peace, the skin of the head and neck of the drake is frequently seen covering the stem."

This beautiful duck is easily tamed so as to take food out of the hand of its keeper.

THE MANDARIN DUCK

The Mandarin Duck is one of the most beautiful birds among waterfowl. It is sometimes called the "Fan-winged Duck," from the peculiar shape of a portion of its wings, which rises over the back in the shape of a lady's fan. The head has a crest, falling back on the neck; the color of the body plumage is very fine and uniform in this curious variety—considered in China the prettiest of the duck class.

Mr. Haight, an observant traveler in China, says: "We in America call the ducks of China by names unlike those used by the Chinese. What we call the Pekin Duck is called by the Chinese in the north the Mandarin Duck, from the fact that they are kept in large numbers by the Mandarins at Pekin and throughout the northern provinces. What we call the Mandarin is a wild duck, large numbers of which are found in the north of China and called by the Chinese simply 'wild ducks.' They perch on trees, except in the moulting period, when they rest among the leaves on the ground. They are capable of being domesticated, and large numbers are sent to southern China for this purpose.

"It is said that they dwell mostly in pairs and are so greatly attached to their original companions that they do not usually mate a second time if either be killed."

In regard to this, Mr. Davis furnishes the following particulars: "From an aviary containing a pair of these birds at Maçao, the drake happened one night to be stolen. The duck was perfectly inconsolable, like Calypso after the departure of Ulysses. She retired into a corner, neglected her food and person, refused all society, and rejected with disdain the proffer of a second love. In a few days the purloined drake was recovered and brought back. The mutual demonstrations of joy were

excessive; and what is more singular, the true husband, as if informed by his partner of what had happened in his absence, pounced upon the would-be lover, tore out his eyes and injured him so much that he soon after died of his wounds.

"We lately saw a pair of Mandarins and a pair of Carolina ducks reveling in luxury. They were tenants of a washing-tub sunk in the ground.

"We do not advise too small a pond. Few people are content with only one pair, although the pond may be made for that number only. A round pond, four feet in diameter, is quite large enough for one or two pairs of any kind of wildfowl, but if possible it should be made larger. It need not be more than two feet deep in any part. It may be that depth everywhere except in two places, which will serve as landing-places for the birds, and scours on which they may be fed. These will be cut through the bank, so that the ducks can swim out. When they are tired they cannot always climb up a bank, and they drown. The inclosure around the pond must depend on the space that is available, but for one or two pairs, or three, three feet clear from the pond all round will be enough, but if there is more, so much the better. It should be greensward; and we mention here that the scours or landing-places should be pitched or floored with large gravel stones, well rammed down. If this is not done it becomes a dirty, muddy place. As the food will always be thrown here, it is economical, for the bird can see and find every grain, whereas, if thrown in mud, much of it will be lost.

"Ducks do not require a shady place, but they like one, and, in common with nearly all animals, they like a shelter from heat and from wind. If, then, some low-branching shrubs can be inclosed, so much the better. Some contrivance should be adopted to enable the pond to be emptied and refilled, that the water may be kept clean. It is very amusing to watch divers in clear water when they dive after grain that is thrown to them. The fence that surrounds the pond should be three feet high, not less—a properly pinioned bird cannot get over this. An inexpensive and safe fence is a wattled hurdle hedge all round. If looked after, it will last for years. The grass in the inclosure soon forms a covert enough to hide any duck. The Carolina and Mandarin are the handsomest of all we have in England; both have their admirers."

THE SPOONBILL

"The Spoonbill is the pariah of the wildfowl world. It is of solitary character, but its solitude is enforced. Other ducks will have nothing to do with it. They seem to feel that it is a degraded being, and that association with it acts as a slur upon themselves." So writes a correspondent of the *Sun*.

Often the Spoonbill seeks in unobtrusive fashion to worm itself into the company of a flock of Sprigs or Mallards, but they will have none of it. Either they crowd together around it and seek to bury it in the water under their weight, or they rise with loud squawks of contempt and wing their way to other waters, leaving it alone but not discouraged. Their reason can be nothing save radical dislike and disapproval of the Spoonbill's mode of gaining a livelihood. The quail has a call when scattered, but the Spoonbill has very little voice at any time, and none to waste in seeking lost companions. If there are ten thousand ducks on the lake when the sun sets and only ten of them are Spoonbills, the Spoonbills will be together in the morning, only to go out again to be separated and put in the day in lonely mud-shoveling or in attempts to associate with their betters.

A marked trait of the female Spoonbills is motherliness. Other duck matrons desert their brood as soon as their youngsters are able to take care of themselves, or have arrived on the southern feeding-grounds. The Spoonbill will stay with her young all the season and seems unable to make up her mind that they have outgrown the need of her instructions. It is not an uncommon thing for a whole brood of them to be killed by gunners, when other game is scarce.

COMMON SHELDRAKE

In French, *Tadorne commune*, in German, *Brand Ente*, this is a very pretty variety. Head and neck are black, while a broad white band encircles the neck, lined off nicely with red. A black broad line runs from neck to tail. Wing coverts are black, flight feathers are white and black. Back and lower body is pure white, Bill has a knob and is carmine red. Legs are flesh colored. The duck has not as brilliant coloring as the drake.

In wild state this variety is found on the beaches of Europe, Asia and East Africa, always migrating to Africa for the winter.

The nest is made in a hole in the ground. The duck lays from seven to twelve eggs twice during a season, and of course does her own hatching and raising.

For public parks and private country places, where the enlivenment of water-ways with beautiful aquatic birds is desired, Sheldrakes are always found. They are hardy and stand our severest winters well.

RUDDY SHELDRAKE

This is one of the oldest of all varieties. The Sanscrit law of the East Indies has a description of them, calling them the "*Tscakravaka*," after their call. The plumage is mainly reddish buff. Two flight feathers are white, the coverts green, and tail black. Their size is about the same as our Mallards, but they have a longer body, longer legs and neck. They appear more like a Bantam Goose. Habits are the same as the above-mentioned Common Sheldrake.

At mating time the drakes become vicious, and for this reason it is not found advisable to have them in a common inclosure with other varieties.

THE BOW-BILLED OR HOOK-BILLED DUCK

This is said to have been of Indian origin. The first that I remember seeing were on the lake at the Surrey Zoölogical Gardens; they were of the ordinary colors, mostly white or splashed with red, yellow, and brown or gray. The carriage was somewhat upright, the necks and bodies long and narrow. They were in no way more desirable, except as a curiosity, than the common duck.

Years afterward, some far better birds were shown at Birmingham. These were white with clear orange-yellow bills, shanks, and feet, and differed from the foregoing in having a top-knot toward the back of the skull. On inquiry of the owner I was told they were active foragers and prolific layers. They were not large, being, when full grown, about six pounds. Of these I made a sketch, considering them interesting from a naturalist's point of view.

THE EIDER DUCK

"A valuable wild bird which, if taken care of systematically in its wild state, grows twenty-five inches long and is remarkable for its soft down. It is found throughout northern Europe and North America," says T. G. Goodrich.

"It always builds its nest on the rocky precipices which overhang the ocean. The down, so much valued, is plucked off the breast by the female to line her nest. The down taken from the dead bird is greatly inferior, and it is rare that so valuable a bird is now killed for that purpose. To augment the quantity of down from the same bird, the eggs, which are very palatable, are sometimes taken and eaten; the female again stripping herself to cover the second and smaller hatch. If the nest be a second time plundered, as the female can furnish no additional lining the male now lends his aid and strips the coveted down from his breast, which is well known by its paler color. The last laying of two or three eggs is always left to keep alive the hopes of progeny, for if this be taken they will abandon the place. Indulged so far, they continue to return year after year, accompanied by their young. One female during the whole time of laying gives about half a pound of neat live down, and double that quantity before cleansing."

All efforts to domesticate this valuable breed have so far been unsuccessful, as the change from purely fish and animal food in freedom to narrow quarters and balanced rations have in all known cases killed their breeding instinct.

The keeping of birds, if taken in hand when young, has often been successful, but never yet is an instance on record where they have bred.



PRIZE BLACK-BREADED SILVER-GREY DORKINGS.

The property of MR. HERBERT RELVES.



THE COMMON WHITE OR MUTE SWAN

THE SWAN



HE swan, for its elegance, its usefulness, and as a standard dish at Royal and civic banquets, has from an early period been held in the highest esteem. It is an ornament to our lakes and rivers, the admiration of young and old. Human beauty is said, when fair, to be "as white as a swan," the well-carried form "as graceful as a swan," while that which is delicate to the touch is called "as soft as swans' down." Our best-loved poet and master-mind was not inaptly called "the sweet swan of Avon."

The swan was ever a royal bird, and in the twenty-second year of Edward IV. (1483) it was enacted that "no person who did not possess a freehold of a clear yearly rental of five marks," was permitted to keep them.

In the eleventh year of Henry VII. (1496), it was ordered that anyone taking or stealing a swan's egg should have a year's imprisonment and be fined at the King's will. Stealing setting nests or placing snares for catching gray or white swans was punished more severely.

The swan was protected, as to ownership, by marks or cuts made on the bill, a practice in vogue to the present day.

The Junior Warden of the year is called the Swan Warden, and models of swans form conspicuous ornaments of the Vintners' hall. The first proprietor of the well-known inn that once stood in Gracechurch Street, London, "The Swan with Two Necks," with its sign of a bird so delineated, was a member of the company.

In the language of the swanherds, the male swan is called a cob and the female a pen. The black tubercle at the base of the bill is "the berry."

Although the swan appears to be, and is, a large bird, it is surpassed in weight by many of our domestic geese, the Embden gander often weighing

as much as thirty pounds. Willoughby gives the weight of the swan at twenty, Yarrell that of an old swan at thirty pounds, which is almost unprecedented, while the goose has ranged to as much as thirty-four pounds and a half. In former times the owners of swans, their marks, and swanneries were registered in the book of the King's swanherd, and in the time of Elizabeth there were more than nine hundred swanneries. At the present time the Earl of Ilchester owns a famous one at Abbotsbury, on the west coast. This is said to be more than eight hundred years old, and it is the largest in England, possessing a great number of thriving semi-wild swans that nest and breed freely.

"It is a most interesting sight," says Mr. Yarrell, "when several of these large birds are on the wing together." At Lewes, in Sussex, I have often seen a flock of full-grown cygnets led by the old birds, suddenly rise from "the pells" where they were bred and, with outstretched necks, slowly make their way to the near-by river, softly uttering broken, melodious sounds.

At the time of incubation, the male swan or cob is particularly pugnacious, attacking fiercely any animal or even a human being who approaches the nest. It is recorded that at Lewes, some years ago, a man had his thigh broken when inadvertently walking too near the swans' adopted home.

Swans pair, and the same birds continue together for life. They make a large nest of any rushes, etc., at hand, and mostly on an island or very near to the water. During the time of incubation the nest is being continually enlarged, and is often double the size that it was when the "sitting" commenced. I have seen one nearly three feet high, and as wide through. Willoughby says they lay seven to eight eggs and sit two months, while Mr. Yarrell states the number of eggs to be "six or seven. They are of a dull, greenish white, four inches in length by two inches nine lines in width. Incubation lasts six weeks, and during this time the male is in constant attendance on the female." This time for incubation is two weeks less than that given by Willoughby.

Mr. Yarrell agrees that the average number of eggs is seven. What is more worthy of notice is the fertility of all the eggs laid, or nearly all.

Mr. Nolan, in his "Ornamental and Domestic Fowls," 1850, page 132, states that "Two females have been known to associate for years together, hatching and bringing up their young from the same nest, sitting by turns

without quarreling. The cygnets when hatched are covered with down of a sooty color, and do not leave the nest for at least twenty to twenty-four hours. They are carefully taken to the water by the female, who frequently lowers a portion of her body below the surface that the newly incubated young may get on her back and rest. I have seen the male or cob also do this. He is most assiduous in his attentions both to mother and family, often fighting desperately in their defense, killing other birds and even animals." Mr. Nolan relates an instance of a female, who perceiving a fox swimming toward her nest, darted into the water and succeeded in drowning him before she returned in triumph.

Each family of swans has its own district on the river or lake which it inhabits. It will not allow intrusion, but drives off others with the utmost impetuosity. The family associate throughout the winter, but on the approach of spring the old birds drive off the young to care for themselves in water apart from that in which they were hatched. The food of the swans consists of water plants, soft roots, and aquatic insects, much of which is sought for at some depth, their long necks enabling them to do this with ease. Swans have been known to take small fish, but this is rare, their conformation not being adapted to such purposes. Mr. Yarrell positively states that a swan has been seen to eat a small roach; but adds, "they also eat grain and bread. The whole length of an old male is from four feet eight inches to five feet." Mr. Nolan gives it "upward of five feet, and more than eight in the expanse of the wings, which reach, when closed, along two-thirds of the tail. The female is distinguished from the male by being smaller, the neck more slender, and she swims deeper in the water," because, says Mr. Yarrell, according to a well-known anatomical law, "females have less capacious lungs than males, and the body is less buoyant." In the male the black tubercle is larger, the neck is thicker, and the bird swims higher and with wings raised higher.

"The young male swan, in July" (I again quote Mr. Yarrell), "has plumage of a dark bluish, almost a sooty gray; the neck and the under surface of the body, rather lighter in color; the beak, lead color; the nostrils and the basal marginal line, black. The same birds at the end of October have a beak of a light slate-gray, tinged with green; the irides dark; head, neck, and all the upper surface of the body nearly a uniform sooty, grayish brown. Young birds at the end of October are nearly as large as the old birds. After the second autumn moult, but little of the gray remains.

When two years old they are quite white, and they breed in their third year." A cygnet that was hatched at the Lewes "pells" many years ago was a deep buff in color, but as it was killed for feasting there was no opportunity to learn what might have been its ultimate tint. The swan is said to be a very long-lived bird. The female will breed when upward of thirty years of age, and males have been known to exceed sixty years of age, even, it is asserted, to live to be one hundred. Yarrell quotes a marked male as known to be over fifty.

The flesh of the old swan is dark and ill-flavored, but a well-fatted cygnet is very good, if a first year's bird.

The swan has been a representative bird at our feasts since the Middle Ages. The following is a copy of the verses usually sent with each presented bird by the Corporation of Norwich, more than fifty years ago:

TO ROAST A SWAN

"Take three pounds of beef, beat fine in a mortar,
Put it into the swan—that is, when you have caught her ;
Some pepper, salt, mace, some nutmeg, an onion,
Will heighten the flavor in a gourmand's opinion.
Then tie it up tight with a small piece of tape,
That the gravy and other things may not escape,
A meal paste, rather stiff, should be laid on the breast,
And some whited brown paper should cover the rest,
Fifteen minutes at least ere the swan you take down,
Pull the paste off the bird, then the breast may get brown."

THE GRAVY

"To a gravy of beef, good and strong, I opine,
You'll be right if you add half a pint of port wine ;
Pour this through the swan ; yes ! quite through the belly,
Then serve the whole up with some hot currant jelly.

"N.B.—The swan must not be skinned."

Mr. Ablett, Her late Majesty's swankeeper, says that the annual small number of cygnets, considering the large number of swans, is to be attributed to the fact that more than half of the old birds are barren, and further, that sometimes brooders pair with "the companies'" birds, and then the produce is divided. About the age at which the Thames swans breed he is uncertain, but there is a pair at Bray who build a nest every year and generally but one egg is laid in it, though sometimes two. As the parents never bring off any young, he has come to the conclusion that

they are too old. With this, however, I scarcely agree, believing that with a young male the pen swan would be productive; such being the case both with geese and ducks. Mr. Ablett continues: "There is one bird near Windsor known to be more than thirty years of age. We lose a number each year through accidents of various kinds, and often through wanton mischief, but the smallness of the number of cygnets reared may not be entirely due to outward circumstances. At Abbotsbury, one of the oldest and best preserved swanneries, perhaps the only one where the birds are in a state of semi-wildness, the rearing of the young in some seasons is particularly disappointing, according to an article which appeared in *Country Life Illustrated*, October 7, 1899. This states that although 'the broods of cygnets are often very large, they are very susceptible to cold and wet, and are killed off by an inclement spring as easily as young pheasants. In the very wet summer of 1893, out of 800 hatched and left with the parent birds all died but one. Only 150 were reared by



BLACK-NECKED SWAN WITH A WHITE BODY

This picture is of a comparatively rare species

hand.' This mortality shows that even in a locality well adapted to the wants and requirements of the swan, the difficulties in the natural rearing of the cygnets are almost beyond control. The Abbotsbury birds seem to differ from those on the Norfolk Broads and on the Thames in their methods of nesting. They occupy in numbers a very limited area and live in perfect harmony, while in the former places, each pair selects and maintains as its own a certain tract of water or land, a right they will defend even to the death of themselves or the intruders. At Abbotsbury, the swanherd visits the nests and provides rushes, reeds, etc., for the swans to build with. The writer of the article alluded to says: 'The way of building is unlike that of any other bird. The swan, usually the female, sits on the nest and stretches out her neck, to gather every morsel of portable stuff of any kind that she can reach, which she piles round her in a kind of wall.'" The swan is not the only bird that so builds her nest, the common duck acts in precisely the same way; one duck in my possession so raised her nest about her as to be invisible at a little distance. Both the duck and the swan will continue unremittingly this adding process throughout the whole time of incubation.

The scene at Abbotsbury during the months of April, May, June, and July must be exceedingly interesting and delightful to a naturalist, or even to an ordinary lover of nature. Such a flock of swans, old and young, must be a sight worthy of any journey, however long and tedious.

Mr. Weir refers above to the Mute Swan, *Cygnus olar*, as it is the chief variety domesticated for the purpose of enlivening waterways on private estates or parks. The fact that swans often attain to an age of more than 100 years, and remain good breeders to the last, offsets to some extent the frequent infertility of their eggs. As the purchase price in America is rarely less than \$50 per pair for mated birds, it is easily seen that it pays to breed swans, if the environment allows it.

In addition to the Mute Swan we have the Hooper or Whistling Swan, *C. ferus* of Ray, *C. musicus* of Bechsbein, an all white bird of large size, which derives its name from its loud cry of *hoop, hoop, hoop*, repeated many times. Northern Europe is its summer, and Africa or Asia its winter home. We find it domesticated often in France and Germany, but rarely in the States.

Other varieties are the Becorcks Swan, almost four feet long, and pure white in plumage; the Polish Swan; the Black Swan, originally from

Australia, deep black in plumage, except a few white feathers in each wing; and the American Swan, *C. americanus*, five feet five inches long, pure white in plumage, which breeds in the high northern regions of this continent. It is said to have been abundant on the Pacific Coast thirty years ago.

The Trumpeter Swan has a harsh trumpet-like voice, is pure white in plumage, and furnishes the bulk of the skins imported into England by the Hudson Bay Company. Its main haunts, however, are from the Mississippi westward. All of these species have been domesticated, and, with good care and the proper breeding environment, they will reproduce themselves.

All swans are perfectly hardy and will stand well our severest winter, if a small shed, open to the south, is provided for shelter from heavy storms. I would suggest that all who can should raise swans, as nothing more beautiful and edifying can well be imagined.

THE COMMERCIAL VALUE OF SWANS

Swans' down as a decorative trimming on ladies' dresses is of ancient date. "Throat ties" and "tippetts" were made of its breast skin with the down on, the bird being skinned as soon as possible after death, the feathers removed, and the down left adhering. This was then nailed to a board with the fluff inward, the part exposed being scraped so as to remove all fat or fleshiness, then cured, mostly with alum water, though other means were often employed.

"A chest protector" was made by cutting the skin square or oblong and leaving the feathers on entirely. This, after drying and curing, was lined with silk, and kept in its place by a ribbon round the neck. Swans'-down "boas" were once in high repute, and even now are not entirely despised by the fair sex. Though becoming, they are not considered quite "the mode."

Pillows of swans'-down are a luxury in winter, and are by some preferred to those stuffed with down from the goose. Of all the swans' featherings commend me to the quill which can be used for a pen. Properly prepared, seasoned, and well made, what a pen it is for large and bold lettering, for full, clear, black lines. It lends itself to light or vigorous touch in a way that leaves nothing to be desired. There seems to be a

finger fitness about its naturally elastic curve, and yet, despite its lasting and holding capacities, it is never seen now in pen form. In old-time offices clerks would be busy at ledger and other work with a swan's-quill pen stuck behind the right ear, and a goose-quill at the left, or two goose-quills, one for red ink, the other for black. These were superseded by quill "nibs" for metal holders, and then came steel or gold pens, latterly with fountain holders.

The artist still knows, deftly handles, and fully appreciates the sable or the camel's-hair brush tied in the swan's quill. It makes the brush light and easy to work, which holds its own against newer forms and fancies. For ten long years I have had a swan's quill brush in use, and still it is the best. A swan's quill is also used to contain messages, written on thin paper, tied to a carrier-pigeon, for when corked it is light, dry, and a security from damage.

"Emblem of modest grace, of unaffected dignity and rose of pure and elegant simplicity," so sings Eudisia of the swan.

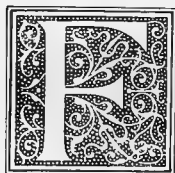


From a photograph by C. Reid

WHITE SWAN NESTING

PIGEONS *

J. C. LONG, NEW YORK



FROM time immemorial, pigeons, like dogs, cats, and domestic fowls, have been the companions of man. History, as far back as we have any written record, mentions them, usually under the name of doves. Their beautiful form and coloring, together with their attractive ways have endeared them to emperors, kings, queens, merchants, professional men, even to the humblest laborers, all of whom have found recreation and delight in breeding them and in caring for their wants and comfort.

Every European traveler knows of the pigeons of Piazzzi di San Marco of Venice. The Bible, in Genesis, Leviticus, and Isaiah, speaks of them. Pliny tells of them in his time, and says that the fanciers can reckon up their pedigree and race.

"The dove or pigeon is associated with all that is holy in Christianity, and with much that is sacred in mythology. Its very name in Hebrew, *Jona*, is derived from a word signifying gentleness, and, from the day it brought the olive-leaf to the Ark, both the plant and its winged bearer have been esteemed emblems of peace." In many eastern countries, the pigeon is to-day a sacred bird, and to kill or mutilate one is an offense followed by condign punishment. The Brahmins of India tell of their deities assuming the shape of doves, and the Mahomedans believe that Mahomed had an attendant spirit in the same form, while the dove among Christians is an accepted emblem of the Divine Spirit.

ORIGIN OF FANCY PIGEONS

The origin of fancy pigeons is veiled in mystery. Eminent naturalists, among whom is Charles Darwin, attempt to prove that the Blue

* In his recent work, entitled "Our Poultry," Mr. Weir did not include the pigeons. In America pigeons occupy a very important place at our poultry shows, and the industry is rapidly gaining in prominence. There is an awakening of interest among fanciers for the fancy breeds, while squab-raising has become an important business in many sections. This chapter has been prepared by J. C. Long, of New York, one of the oldest and best-known pigeon experts in this country. All the illustrations of pigeons in this chapter are from photographs by A. Radclyffe Dugmore.—EDITOR.

Rock and the common Dove House Pigeon of Europe are their progenitors. Other breeders and writers favor the idea that some, at least, of the numerous varieties had a distinct and separate origin. Certain it is, that not within the past 200 years has any fancier been able to produce, from the two varieties above mentioned, anything that could be pronounced a distinct type, like the Pouter or the Barb. If the ancients knew how it could be done, it has become a lost art. Perhaps in the days when Babylon and Nineveh were in their glory, and "Time had not begun to overthrow those palaces and piles stupendous"; when the valley of the Euphrates was the seat of a wonderful civilization, breeders knew how to produce from the common pigeon of the fields those beautiful varieties that came to Europe, and thence to America. I am thoroughly convinced, from reading and reflection, that those ancient peoples had their pigeons in as great variety as our own.

Persia, India, and Arabia still cherish the pigeon, and some of our most beautiful varieties have come to us from those distant countries. If neglected, they tend to revert back into a resemblance of the common Dove House Pigeon. Careful selection from these reversions brings them up again to the standard of the original stock. This cannot be said of the common bird, for no amount of selection has so far been able to produce any variation from it. Many varieties when crossed produce mules, which should prove that they sprang from an original source—a type of their own. It is an important question for the fancier, and it may interest the lay reader, to quote from "Brent," an eminent English writer on the subject:

"The precise species from which our domestic pigeons have descended has long been a matter of doubt. One distinguished naturalist supposed them to proceed from the admixture of our three native doves, as the Ring Dove, the Stock Dove, and the Turtle Dove. In this way, he accounted for their diversity of form. But, as these doves are of different species, it is very difficult to procure a cross between them, and, when obtained, the offspring are sterile hybrids. I think nothing more need be said about them. The second hypothesis was that they descended from the Stock Dove (*Columba aenas*), and that the Blue Rock (*Columba livia*), and the Dove House Pigeon (*Columba agrestis*) were the intermediate states of the same birds in their approach to domestication. But this theory evidently had its rise in the confusion that long existed respecting the identity



A LOFT OF FANCY PIGEONS STIRRED TO INDOOR FLIGHT

of the Stock Dove and Blue Rock Pigeon, which are now acknowledged by all naturalists to be distinct species.

"I have found, also, by experiment that the produce of the Stock Dove and the domestic pigeon are mules.

"It then remains to be seen whether the Blue Rock or Chequered Dove House Pigeon has the greater claim to being the progenitor of the race.

"I believe that the Blue Rock is a distinct species from the Dove House. I have not, however, had any opportunity of trying to what extent the two will breed together, nor whether their produce would be productive *inter se*. I have never been able to procure the Blue Rock in all its purity; but its wild, unreclaimable nature, and its shunning so completely the abodes or neighborhood of man, lead me to suspect that such is the case.

"The Dove House Pigeon is, on the other hand, a bird eminently susceptible of domestication, and is everywhere found in that state. A great many of the varieties of 'Toys,' or the lower-class fancy pigeons are evidently of this sort, little or nothing changed except in the color of their plumage, while many others appear to be derived from the same source, but crossed with the other fancy kinds, or showing more or less

the effect of careful breeding and selection. Thus far I am willing to admit their descent from one original stock, viz., the Chequered Dove House Pigeon, *Columba agrestis* (*Columba affinis* of some). But, when we come to examine the varied forms and distinct properties of many of the higher-class fancy pigeons, I feel a great disinclination to assign them a common origin. I do not think that even the admission of the Blue Rock (supposing that that pigeon will produce fertile offspring with the Dove House Pigeon) is sufficient to account for the many varied and marked peculiarities, or that domestication could so alter the form and even the nature of the different breeds which have continued to present the same peculiarities through so many generations. Of course, I do not deny the possibility of such a thing, but I think it very improbable, and I cannot divest my mind of the idea that, at least, some of the so-called varieties are something more. I allude to the Wattled Pigeons, the Fantails, the Trumpeters, the Jacobines, the Croppers, and the Tumblers. All these birds have certain peculiarities by which they may be known and distinguished under whatever circumstances of form or color they may be bred. These properties are fixed, and do not appear among other varieties; nor are they liable to be lost, unless cross-breeding is resorted to. Neither have I ever heard of their sudden appearance from any particular plan of breeding, which we might expect if they were, as some suppose, due to taking advantage of some freak of nature or accidental malformation. I should incline to the belief that the various fancy pigeons owe their origin, not to one particular stock, but to the domestication and mingling of some five or six varieties, or nearly allied species. These original families have long since become lost and obliterated, while, from their mixture, our present numerous varieties arise, as the result of long domestication and careful selection."

There are no true pigeons indigenous to America. To be sure, we have what is known as the Wild Pigeon, once very abundant, now almost extinct. But this bird is arboreal in its habits, roosting and building its nest in trees, making its home in forest or swamp. It is more properly a dove, being larger than the common pigeon, and with a longer tail. It shuns human habitations, is migratory, and does not brook confinement. Therefore, it should not be crossed as a pigeon. The birds that cluster about our town and country houses are all aliens, having come to us from Europe. They are descendants of the Blue Rock, *Columba livia* of the naturalist, and the Chequered Dove House Pigeon (*Columba affinis*). Of

these, the former is domesticated with difficulty, the latter with ease. Both are true pigeons, do not frequent trees, are sociable, live in communities, are not migratory, but have a fixed abode, and can bear confinement. As our fancy pigeons have all these characteristics, they are, by some naturalists, supposed to be descendants or offshoots from this common stock; but it still remains a mooted question what was their origin.

The date at which pigeons were introduced into America and encouraged to take up their abode here is not upon record, but they were probably brought with the poultry, swine, and other domestic animals of our early settlers. I have traced the introduction of fancy pigeons back about one hundred and forty years. No doubt they were here much earlier, as both the English and the Dutch settlers were accustomed to have them around their homes in Europe, and, on emigrating to a new country, would still desire to have some of their pets about them.

Fanciers of pigeons were not numerous in those days, for people had other things to think of than the dissemination of pigeon-lore. Their writers make no mention of so humble a denizen of the farm and homestead. In later days, fancy pigeons came to us from various portions of Europe, Asia, and Africa. America now boasts as fine specimens of the genus *Columba* as can be found anywhere in the world.

The term pigeon is derived from the Latin word *pipio*, a young piping or chirping bird, known among pigeon fanciers as a squealer. The pigeon belongs to the family of birds called *Columbidæ*, which comprises all the different varieties of doves as well as pigeons, forming the genus *Columba*. They are generally classed among gallinaceous birds, but as they resemble both the orders *Rassones* (scrapers or scratchers) and *Incessores* (perchers), they have, by some naturalists, been constituted into a distinct order between the two. While, in many respects, they resemble the order *Gallinaceæ*, they differ in the fact that, instead of cohabiting promiscuously, they are monogamous, live in pairs, and the male shares with the female the duties of incubation and the work of feeding and caring for the young. In the *Gallinaceous* family, young birds are able to run and, in a measure, to provide for themselves as soon as hatched; but those of the *Columbidæ* are born blind. These helpless little creatures must be fed by the parent birds. By a wonderful provision of nature, about the time for the young to be hatched, the food taken into the crops of the older birds is changed to a chyme-like fluid, white in color and known among fanciers as "pigeons milk."

The parent bird takes its offspring's bill into its mouth, and, by a spasmodic action of the crop, injects this milky fluid into the young one's crop, and so its life is sustained. This manner of feeding is kept up until the young birds are able to care for themselves—when about six weeks old. As the young increase in age and size, the milky substance ceases to be formed. Whole kernels of grain, eaten by the parents, are injected into their crops, and digestion takes place as in adult birds.

BREEDING PIGEONS AS A PASTIME OR FOR PROFIT

It has been said that a man without a hobby is a miserable being; but, before any one in the pursuit of happiness takes up the breeding of fancy pigeons, he must consider whether or not he has patience to await the development of plans for the increase and perpetuation of a flock. The same hope, perseverance, and persistence are called for which the gardener exercises in planting seeds and bulbs. One must await the mating, the production of eggs, the incubation, the growth of the squab in the nest, and the moulting, before the final development into full feather and beauty is attained. Success is not always assured, for, as Burns says, "the best laid plans of mice and men gang aft aglee." The breeding of fancy pigeons is a pursuit beset with difficulties; but, as in all undertakings, careful study and persistent effort will overcome the difficulties. If the fancier learns to love his birds, the time passed among them becomes full of enjoyment, a welcome change from the cares and turmoil of business, from the harrassing perplexities of study or office, and a relaxation from the labor of shop or bench. It is a particularly interesting and profitable pastime for boys, keeping them from evil ways and companions, teaching them those principles of patience and perseverance so necessary to success in life. In my long experience, I never knew a boy who had been an ardent pigeon fancier to grow up a bad man.

Every fancier observes, after keeping pigeons for a time, that they are no exception to all else earthly in thriving and improving just in proportion to the study, care, and attention they receive. A flock of common, or one of fancy, pigeons will flourish and increase with little more attention than a supply of food, but they will not progress. There will not be any improvement in those qualities which make fancy pigeons so interesting and attractive, and the attainment of which should be the aim of every breeder. It is the only way in which he can get the full measure of delight to be

derived from the keeping of these beautiful pets. Their beauty will be denied by no one who has ever ridden this hobby. Many of the birds have features that the uninitiated might deem positively repulsive, but to the fancier, when these are combined with other necessary points, the apparent ugliness helps to complete the perfect and desirable whole. For instance, the breeder of that king of pigeons known as the English Carrier demands as an element of perfection a long snaky head and beak, together with an enormous development of eye and beak-wattle. The Pouter fancier sees beauty in its monstrosously inflated crop, its long, stilt-like legs, and slender girth. The Barb fancier admires a short, bullfinch-like beak and enormous development of eye-cere. So, throughout the whole category of pigeons, that which seems an imperfection to those without the pale of the fancy is in reality necessary to make a standard bird.

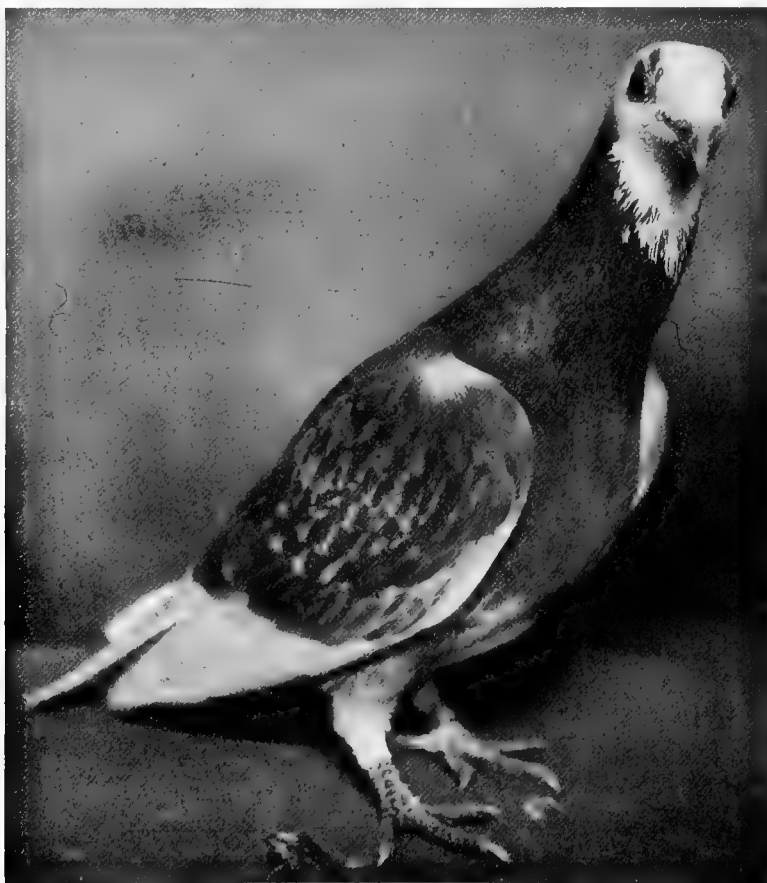
The intending fancier will naturally ask: "What breed or variety shall I keep? What would you recommend?"

"First of all," I would say in reply, "go slowly; do not aspire to too great a variety, nor too large a flock."

Of course, much depends on the means, circumstances, and location of the beginner, but it is safe to recommend to all intending fanciers, as a variety to start with, the pretty, interesting Flying Tumbler. They are hardy birds, eat little, require but a limited space for nesting and breeding, are prolific breeders, easily tamed, and not expensive to keep. They can be allowed their liberty, and, when carefully bred and trained, are a continual source of enjoyment. There is an infinite variety of coloring and marking among the Flying Tumblers, and they are also plain, and feather-legged, or "muffed." A little experience with these will fit any one to take up the breeding of higher-class pigeons and more expensive varieties, a description of which will be given as we proceed with this work. Next to Tumblers, can be named Magpies, Nuns, Helmets, Homers or Antwerps, Spots, and Dragoons or Dragons, as they were once called. Experience with Tumblers is better than with the more delicate varieties, to prepare one for careful breeding.

The question is often asked, is pigeon keeping profitable? If a person is naturally adapted for the work of breeding pigeons, it can be made profitable; but, like any business, it takes time to learn. The habits and characteristics of the birds, how to mate, feed, and care for them, must be studied in order to insure success and the hope of profit. I have known

men who made a good income from breeding fancy pigeons, but I fear the majority of fanciers find their only reward in the pleasure derived from tending and admiring them. Squab-raising for market is largely being practised at the present time, and, I believe, with a good margin of profit.



RED-CHECKED MALE HOMER
Nine months old. From imported parents

While this work will treat more particularly of the breeding of fancy pigeons, the rules laid down will be found just as applicable to the squabs bred for market, as to the higher-class birds. Whether they have been reared for their feathers and standard qualities or for the table, many of the higher class will be found fit only for pot or broiler.

Having determined upon entering the ranks of pigeon fanciers, and

having settled on the variety or varieties (even though, as I have advised, they be Tumblers) which one wishes to breed, procure, if possible from a well-known, reliable breeder or dealer, good, well-mated specimens. Do not be satisfied with inferior birds, for, in pigeons, as in other stock, like is apt to produce like, and there can be little hope of reaching perfection if one starts on a poor foundation. There will be discouragements enough, even if one begins with the best, but, as often quoted, "the best is none too good." They will cost more at the outset, but be more satisfactory in the end. With a few good ones, the first step to success is assured. Experience will teach how to make proper selections to obtain best results in breeding, and, with good stock as a nucleus, the fancier can soon collect a flock that will be a "thing of beauty and a joy forever." Let the fancier learn to love his birds and to do his utmost, by precept and example, to encourage all that is lofty and noble in the keeping of pigeons.

THE AVIARY, OR LOFT, AND ITS APPLIANCES

Having decided to start the keeping of pigeons, attention must first be given to quarters for their accomodation. These can be suited to the convenience and means of the fancier, as the pigeon is a cosmopolitan in its habits. It adapts itself to circumstances and is apparently as happy and as much at home in a soap box nailed to the gable of a barn, as in the luxurious quarters provided by a wealthier fancier. Consequently, pigeon-houses are as diversified in construction as are the habitations of their owners. First of all, they should be thoroughly dry, well-ventilated, have plenty of light and, where possible, a southerly exposure or one at least that the sun will strike during a portion of the day. The gable-end of a barn or the upper portion of any outbuilding can be utilized to good advantage. Even an upper room in a dwelling-house is often used in cities. Whatever the location selected, one of the first steps toward preparing it for occupation is to see that it is well guarded against the intrusion of rats and mice, one of the evils with which the breeder has to contend. Floors, walls, and partitions, should be so tight that none of these pests can work through them. Openings for ventilation can be covered with fine-meshed wire to ward off danger in that direction. An entrance-door for the inspection and examination of the nests and young is necessary, but it also should close tightly. A large window to the south will give the necessary light and air. Holes about six inches high and four

wide may be cut for the entrance and egress of the birds. If possible, a large cage made of one-inch meshed wire, or an even coarser variety, should be placed on the outside, in front of the window and entrances, as an area or trap, so that the birds, when necessarily confined, may have a place for exercise.

On the front of this cage should be a door, say two or three feet long and twelve inches wide, hinged at the bottom and arranged so that it can be raised or lowered. When lowered it should rest on supports so that it lies on a level with the floor of the cage, which should be of slats with spaces between of three-eighths of an inch. Opened, this answers as an alighting-board for the pigeons at liberty. At night, or whenever it is desirable to confine them, it can be closed. The open slats at the bottom allow the rain and offal to pass through without collecting in a mass. On either side of this falling door should be two holes or openings, four by six inches, with an alighting-board projecting from them eight to ten inches long by four inches wide. Suspended from the top of each opening should be two stout wires, about one and one-half inches apart, inserted in a round piece of wood at the top and hung on pivots at the sides, so that the wires swing loosely, allowing any pigeon that may be shut out, to walk in by pressing against them. A cleat placed at the bottom allows them to swing inward, but prevents them from swinging outward, so that, once inside, the pigeon cannot get out. These are known as bolting wires, and pigeons soon learn their use.

This arrangement having been completed, attention is directed to the nesting shelves and apartments. These should be arranged on one side, or on both sides of the room, according to the number of pairs to be housed. The shelves should be about fifteen inches wide, and from twelve to fifteen inches apart, held in place by upright boards of the same width, and of a length according to the size of the room. These can be subdivided into spaces, eighteen to twenty inches long, by upright pieces, extending out flush with the front and back edges of the shelf. This affords a breeding place for each pair. Another subdivision, by a low partition fourteen inches long and five inches high, allows places for two nest pans, and permits the hen to make a second nest and lay another pair of eggs before the first young ones are ready to leave the nest. It also prevents the young birds from annoying the older ones during incubation by teasing for food, as they always do when the parent bird is near. In front of the middle partition

and extending entirely across the front of the apartment, place a strip three inches wide. This keeps the nest pan in place and prevents the young from falling out, after leaving the nest pan. Fitted to the front of the apartment should be a movable frame, covered with two inches of wire netting, made of inch stuff. It is not necessary to have one for each apartment. Half a dozen will be enough. These can be held in place by buttons when necessary to keep a pair confined, in order to accustom them to the particular nest you wish them to occupy. It will also be useful in keeping a pair secluded, when desirable to do so. It is advisable to have this tier of nests movable, not fastened to the wall, so that, in cleaning the room or loft, they can be pushed aside, and the wall behind them, as well as the nests themselves, be thoroughly cleansed and whitewashed. Although pigeons will live and breed in dark, dingy, and dirty rooms, they like cleanliness. Their room or loft should be whitewashed before they occupy it and once again during the year, after the breeding season is over.

A necessary adjunct to the breeding-room is one or two mating cages. These should be about thirty inches long, made of framework and wire netting, with doors in front. They should be subdivided by a partition through the center from front to back, also of wire netting. Wishing to pair two pigeons of whose sex you are uncertain, confine one in each of the apartments. As soon as they have become accustomed to the surroundings, they will show if they are male and female, and congenial. They can then be placed in one of the nesting apartments with a door or frame in front, and, if ready for breeding, they will settle down contentedly. The door can then be removed, and the birds given the liberty of the room. By having two or more mating cages, several pairs can be mated at a time; and as fast as one pair is mated, they can be removed to make room for another. For successful and systematic breeding, these cages are very necessary, in order that you may select such birds as you believe will produce best results in breeding and keep them together. It is best to have these mating cages outside of the breeding-room, away from the other pigeons, because many times a hen will take a fancy to a certain cock, and as long as they are in a room together, it will be difficult to induce her to take up with another.

The floor of the loft should be covered with sawdust, sand, or hay-seed chaff. Of these, I prefer sand, as either the sawdust or the chaff when

dry blows about, into the corners and along the sides, unless there is a heavy layer of it. The sand can be wet occasionally with diluted disinfecting fluid, and thus kept in place and deodorized. A fine-toothed rake run through it occasionally will take up the droppings and so keep it clean.

A large pan made of zinc or of galvanized iron should be provided for bathing. Pigeons are fond of the bath, and require it to keep them clean and also to aid in freeing them from lice. Twice a week is often enough, where pigeons are kept confined. If allowed their liberty, the pan will not be necessary for they will find a bathing-place themselves.

I have given a general idea of how a loft should be constructed, but the fancier can build to suit himself, his circumstances, and location. My instructions can be enlarged and elaborated as taste and fancy may dictate. Certain it is, that a handsome pigeon-cote, conveniently arranged, adds much to the pleasure of pigeon-keeping.

Another necessary article is a feeding-box or hopper. In such a fixture, the food is kept clean, and the birds can supply themselves from it at will. Such a box can be made of inch and half-inch material, say, from eighteen inches to two feet long, twelve inches high, eight to ten inches wide at the top. The sides slope inward toward the bottom until they are two inches apart; the end-pieces correspond to this inclination. At the bottom should be a trough five or six inches wide and two inches deep. Into this the narrow portion of the hopper should be placed, raised about one and one-half inches from the bottom of the trough. The food placed in this hopper feeds into the trough as fast as it is used, thus keeping up the supply till the hopper is emptied. If permitted, the pigeons will throw much of the grain out of the trough to the floor with their bills, wasting a large portion of it. To prevent their doing so, place wires from the front of the trough to the sides of the hopper, about two inches apart. This will permit them to get all they need to eat, and stop the waste. The top of the hopper should be covered with a movable lid, so that the grain may be kept clean, free from dust and dirt. There are other devices and receptacles used for feeding purposes, but the one described is about as practical as any.

It is often necessary to catch the birds for examination or for other purposes, and, in a large aviary, a scoop or landing-net is a useful article. This can be made by taking a piece of round rattan, half an inch in diameter

and eight to ten feet long. Bring the two ends together and fasten them with binding cane or twine for about three feet, to form a handle, the remainder of the cane making a loop. To this should be attached a bag made of inch and a half meshed cotton netting, a light affair that can easily be cast over the bird you desire to catch, without injuring it.

For the convenience of the birds, perches of some kind should be placed in different parts of the loft, made so as to accommodate a single bird. Begin by placing, about two feet apart, upright strips, two and one-half inches wide and an inch and a half thick, from floor to ceiling. The strips should be fastened to the side wall not occupied by breeding-pens. Attach to these, by wooden brackets, boards, eight or ten inches wide, dressed on one side, running horizontally at an angle of 45 degrees, about two feet apart, one above the other. On the upper edges of these horizontal boards, perches made of strips of wood should be fastened at right angles and about a foot apart. The perches may be about five inches long and two and one-half wide, running from the edge of the board to the wall. Quarreling is avoided by the separation, and the slanting board prevents the droppings of those above from falling on those below. Another form of perch is made by taking two pieces of half-inch material, dressed, four to five inches wide and five or six inches long. Nail two ends together, making a V-shaped affair, which can be inverted and suspended on rails driven into the upright pieces previously named. As they will accommodate but one bird, these also prevent quarreling and avoid the droppings from other birds. Another plan is to have a bracket made of quarter-inch iron, the lower part screwed to the upright. On the upper portion of the arm, a square or round block of wood, four inches in diameter, can be fastened. There are other forms of perches, but those mentioned are practical and generally used.

The earthen pans for nesting purposes are made of the same material as the flower-pots used by florists and gardeners. They are usually found at any pottery where flower-pots are made. Wooden bowls can also be used, but the earthenware are considered the best. These can be had from six to ten inches in diameter, and suited to the size of the breeding birds. Pigeons left to themselves build a nest of twigs and rough material, which becomes a filthy mass by the time one or two pairs of squabs are raised. Consequently, fanciers of experience take this matter of nest-making into their own hands, and, instead of twigs, furnish dry, coarse sawdust. If



THE JACOBIN

Whose hood, mane and chain combine in a fluffy erection to rob it of side sight



BLONDINETTE ORIENTAL FRILL

The Frills are exquisitely penciled and laced with color



THE BARB

One of the great races of fancy pigeons. A wattled beak and heavy muzzle

cedar sawdust can be procured it is considered the best, but good pine sawdust is also used. This can be changed several times while the young squabs are growing by substituting a clean nest pan for the one in use and lifting the squab from the dirty to the clean one. In this way no vermin can gather to annoy the young.

Much care should be exercised in the choice of drinking vessels. Where an open vessel is used pigeons will bathe in it and foul the water. Consequently, a closed vessel must be provided with just enough water for them to get their bills into. Pigeons do not drink like birds and fowls, but insert their bills in the water and drink as a horse does. Hence, a water-filled space, two inches wide and two deep, is all they require. Agricultural, poultry, and hardware stores keep various kinds of closed drinking receptacles, or fountains, as they are called, made of metal and stoneware. But one can be made of a large bottle suspended in a frame, neck downward, emptying into a deep saucer. To fill it, stand the bottle on its base, fill it full to overflowing, place the saucer, bottom up, on the top of the neck. Then quickly invert both saucer and bottle, setting them on the floor. The water will flow until it is above the outlet of the bottle and ready for use. As it is exhausted, a fresh supply runs into the saucer, and so it is kept pure and fresh. In winter care must be observed that fountains do not freeze. To prevent

this they should be filled several times a day and emptied at night.

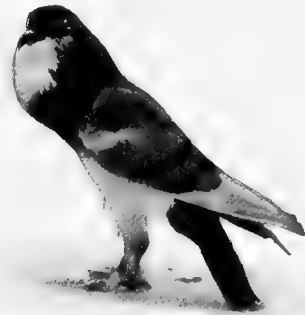
Lofts must be kept clean, and for this purpose scrapers are necessary, as the droppings will adhere closely to whatever place they fall upon. An ordinary ship-scraper, or paper-hanger's wall-scraper, answers the purpose for perches and nesting-places. For the floor, a scuffle-hoe, such as is used in gardening, or a toy garden spade, with a long handle attached, does the work well. Other scrapers may suggest themselves, but these have been found practical and easy to manipulate. Nothing conduces more to the many different forms of disease in pigeons than dirty lofts, foul feeding and drinking vessels. See that they are kept clean, and the birds will thrive. The loft will be an attractive place to visit, and one you never need fear to show your friends.

In this chapter I have described a single kind of cote, supposed to be an upper room in a dwelling or barn, but a building can be purposely constructed in the dwelling-house yard or garden and be so built as to be readily enlarged when desired. This will need a concrete floor to prevent rats working under it, but in other respects it can be laid out as the one already described. In this arrangement a large space can be inclosed with wire netting for a fly, and the pigeons be kept constantly confined. A trap can also be constructed, so that they can be given more extended liberty. A room



A BLUE COCK TURBIT

Shortness of feather, frame and beak, and a "cobby" build are desired



THE PYGMY POUTER

The "globe" of the chest and length of body and legs are beauty points



THE NUN

This bird is classed with the Rock Pigeon because its variations are not radical

or building fifteen by twelve by eight feet high* will easily accommodate forty or fifty pairs of birds. In keeping this number of birds, a second room is desirable, where the young birds may be placed when old enough to feed themselves. They are thus kept from annoying the breeding pairs, and the cock birds are prevented from abusing the young when they tease for food, as they often do even after they have learned to feed themselves. The second room is a convenience when cleaning-time arrives, and also for separating the males and females after the breeding season is over. It is really a necessity for successful breeding of large numbers.

FOOD AND FEEDING

In the matter of food for pigeons, we must be particular if we would be successful. "The best is none too good." It is no economy to feed cheap grain, for its very cheapness denotes its impurity and imperfection. Many opportunities are offered the fancier to buy this low-priced grain, and when the temptation comes to cut down expenses in this way, it is hard to resist, but a close examination will show the imperfections that must certainly exist to render it so much cheaper than sound grain. A little experience will convince one that the pigeons know the difference between good and poor food. If fed the latter they will eat no more than they are actually obliged to, to sustain life, and, in seeking for palatable morsels, will waste the greater portion of the cheaper quality. While flying at large, pigeons undoubtedly eat much grain that, if fed to them under artificial conditions in which most fancy pigeons live, would produce disease and sickness; but, as the pigeons treated of here are fancy birds and supposed to be in confinement, we must cater to them accordingly. No parents would expect their children to thrive on the refuse of the grocer, the baker, or the butcher, and why should our pets be expected to do well on the refuse of the mill and elevator. With the best of grain, there will be some waste, but when the health of the birds is considered, it is cheapest in the end. Good, sound red wheat, small Canada peas, buckwheat, small kernalled Yankee corn, also what is known as Kaffir corn, millet, and hulled oats, and, if possible to procure them, tares and Dari; these last are foreign grains, and, while not absolutely necessary, help make a variety. As a special treat, a little hemp, Canary, and rape seed can be given. I never

found pigeons take kindly to barley and rye unless actually starved to it. Place a mixture of rye, barley, wheat, and Kaffir corn before them, and the wheat and corn will all disappear, and the barley and rye be left. Where they can do it, these grains will both be thrown out of the feeding-pan or trough. In addition to having the grain of the best, care should be taken to have it dry and hard. New grain but a short time from the fields will scour and purge, and, naturally, cause weakness and emaciation. While pigeons at large visit the grain fields and seem to feed with impunity on the newly harvested grain, those in confinement show its bad effects almost immediately. Stale bread soaked in water, mashed and then mixed with wheat bran until all the moisture is absorbed, is very much relished, and a little cayenne pepper sprinkled on it occasionally is beneficial. One writer tells of making a corn-bread loaf once or twice a week, and, after baking well and adding a plentiful supply of red pepper, crumbles it up and feeds it to the pigeons. They like a change, and these mixtures all come in as a substitute for the grains. Large kernalled corn should always be avoided, especially for the smaller varieties, for they often choke from trying to swallow the large kernels. I have frequently seen small birds like owls and Turbits running about the loft with mouths open wide, and, on examination, found a large kernel of corn lodged in the throat, which had it not been removed would undoubtedly have killed them. I have occasionally found the mdead from this cause on the the floor of the loft.

The manner of feeding is a disputed question. While some advocate the use of hoppers and feeding-pans, where food can be kept constantly before them, others prefer to feed from the hand, scattering it about the floor or, if a fly is attached, on the ground. Where one is able to visit the loft several times during the day, the latter method, to my mind, is the best, as the birds can more easily be fed the variety desirable to be given them at the time, and they are not so liable to become excessively fat. But where one is able to visit the pigeons only morning and night, then a hopper becomes a necessity, especially during the breeding season. To supply the variety desirable, several hoppers should be used, with one or two kinds of grain in each: then the birds can choose which they prefer. When feeding soaked bread, a shallow vessel is best, because it cannot be easily upset. When practising feeding by hand, instead of feeding directly on the floor, a platform can be constructed

from four to six feet square and raised about six inches from the floor, the supports being well under the platform, so that, if mice infest the loft, they cannot reach the grain. The hoppers can also be placed here if desirable, when it is necessary to use them for feeding. The food of pigeons should be varied according to the time of year and the locality. In the North, where the cold of winter is severe, more nitrogenous food should be given, such as corn, peas, and buckwheat; while in warmer climates, less corn, peas, and buckwheat, and more wheat, millet, and less heating food. In cold weather, the pigeons should go to roost with full crops, thus enabling them to withstand the cold of the long winter nights. While pigeons are supposed to be strictly granivorous, they relish an occasional ration of green food, are fond of lettuce, young onion tops, and young peas just starting from the ground, as I have found many times to my discomfiture. I am inclined also to believe they have a taste for animal food, having often observed pigeons kept near the ocean fly to the beaches and work industriously for a time, picking up something very gratifying to their taste. I have never opened the crop of such a one to examine it, but am convinced that they feed at such times on diminutive shell-fish or mollusks found among the stones on the shore. They will also eat fat bacon and the fat of ham when furnished them cut in small cubes, and, I am inclined to believe, when flying at large they pick up small grubs and worms.

In connection with good food, pure water is a necessity. Many fanciers have running water in their lofts which would seem to be all that could be desired, and yet at times I have seen the pigeons drink from a stone fountain standing near, which suggested the idea that the running water was too cold for them. However, except in freezing weather, I believe that, where possible, running water is the most desirable, as a pure supply is then always assured. Observation will suggest to the fancier the best manner in which to supply it, whether in a trough, a shallow tank or pool, or a succession of small vessels leading one into the other. I believe the pigeon is the only one of the gallinaceous family that is fond of salt: to gratify this taste, some fanciers tack a piece of salt codfish to the wall of the loft near the floor, so that it can be easily reached, and it is astonishing how eagerly it is sought and how soon it will disappear. Some keep a lump of rock-salt convenient for their use. This should be occasionally moistened to enable them to peck it more easily.

The old fanciers counted much on what is known as the "salt cat," made by mixing one peck of dry loam, one handful each of flour, ground cloves, fennel seed, dill, cumin, fenugreek, and powdered asafetida, three double handfuls common salt, and one double handful bay salt: mix this well together and then add water enough to make it into a stiff dough. Divide into cakes, allowing it to dry and harden in the sun, care being taken to keep it dry, or it will disintegrate and crumble to pieces. One or two of these cakes placed in the loft will be eagerly welcomed, and its rapid disappearance will indicate how fond of it the birds are. Gravel is also one of the necessary articles to provide for pigeons in confinement; when at liberty they can procure it themselves, but, when confined, it must be provided for them, being necessary to assist in preparing the food for digestion. Ground or crushed oyster shells and very coarse sand mixed together will answer the purpose; a little broken charcoal mixed with it will be found an acceptable addition. Broken bone, of the size of wheat, can also be furnished. Old lime mortar is another article they appear to be fond of. Not that taken from inside walls, because that contains hair, but such as is taken from foundation walls. What it contains that is so acceptable it is hard to explain, but, as no ill effects seem to arise from their using it, it may be fair to conclude it is of service to them.

While I have mentioned this varied "menu" for their use, it is not necessary that all should be continually before them, but it can be varied to suit the judgment of their keeper. By giving the careful attention that pigeons in confinement require, he can soon decide under what manner of treatment and with what bill of fare they succeed the best. In this connection, it might be added that many fanciers keep pieces of iron in their drinking vessels, thinking it adds a tonic effect to the drinking water. Some keep a piece of roll sulphur in the water, and others occasionally add a small piece of quick-lime to the same. I have found what is known as the "Douglas mixture" an excellent tonic where birds are debilitated and out of condition, and a little added to the drinking water occasionally has a good effect upon all. It is made as follows: add one-half ounce of sulphuric acid to five-eighths of a pound of green vitriol or copperas, dissolved in two quarts of hot soft water; when cold, add two quarts cold water, making in all a gallon. Use in proportion of a tablespoonful to a pint of water. It should be kept in a stone jug or glass bottle. It

imparts a slightly chalybeate taste to the water, and is especially beneficial in the spring.

MATING AND BREEDING

Having determined on the variety or varieties of pigeons one desires to breed, the first thought that arises, after providing comfortable and convenient quarters for them, is, how they shall be mated to produce the best results and to attain a high standard. Every true fancier has for his object the achieving of perfection in the particular breed or variety which is the subject of his choice. He sets before himself an ideal which he desires, if possible, to attain, and the more difficult it is to reach, the more interesting is the pursuit of it. Let us suppose that the amateur has acquired a fair knowledge of their leading points of excellence and has decided on about what he wants to begin with. He can now visit other breeders or attend some of the leading exhibitions of the country, and here select single birds, or well-mated pairs (trusting to the good judgment of the exhibitor or breeder in the mating). If single birds are selected, he should be sure that he has the right proportion of males and females, and from these get the foundation of his flock. In making selections, he should be careful to have the cock bird as near the desired color and markings as possible, and the hen as near to perfection in form and feature as can be had. The reason for this is that it is generally known and admitted among pigeon fanciers that the cock transmits to his progeny the required coloring, and the hen the beauty of form and feature. The birds should as far as possible be unrelated to each other, although it is a known fact that pigeons will stand closer inbreeding than almost any other domestic bird. Glaring faults must be carefully avoided, for, even with the best of judgment in mating, imperfections enough will appear, especially during the first year's experience, unless one has been unusually lucky in first matings. After a year's breeding, a lot of youngsters will probably have been gathered together, and as the mating season approaches—early in February (in New York and vicinity)—it will be necessary to distinguish cocks from hens. This is a difficult thing for an amateur to do with young birds. An old fancier can, by a certain intuition, select males from females quite correctly, but even the best of these sometimes fail. The cock has a bolder look, a stouter beak, is fuller in appearance about the cheeks; he has also a stouter neck and his breast-bone is thought to

be longer than the hen's, and the bones of the "os sacrum" or vent are closer together: this, however, varies with age. A professional judge will examine with the first fingers of the right hand this formation of the abdomen. If he finds the bones wide apart and the cavity quite large, he will pronounce the bird a hen; if close together, a male. But experience teaches me this is not a reliable test, although seeming to be on the face of it a reasonable one. I have found the following a more reliable test: Seize the bird by the bill with the fingers of the left hand and the feet by the fingers of the right; draw them apart, extending the bird to its full length. If it throws the tail up, you can almost surely rely on its being a female; if it hugs its tail down close to the body, it is supposed to be a male, provided the specimens are matured. While I have tested this many times and found it correct, even this has sometimes failed me; from which I conclude it to be a difficult matter to choose male and female from a lot of young birds that you are not well acquainted with. But in one's own loft, it is not necessary to apply these tests, as by being among them daily you can tell by their actions, whether male or female. The cocks, as soon as their sex begins to assert itself, strut about with erect head, cooing loudly and frequently, with lowered wings and outspread tail, sweeping up to some other inmate of the loft, as if to invite companionship. The hens, unless desirous of mating, stand quietly about, or, if approached by these lively males, coo softly, at the same time moving their heads back and forth, and if approached too closely, will strike with beak and one wing at the intruder, thus warning him to keep off, for his attentions are not acceptable. But should the amorous little fellow in his parade about the loft meet a "congenial spirit," she will reply to his attentions by bowing her head, winking her eyes, showing a trembling action of the throat, as if swallowing, fluttering her wings slightly, courtesying, raising the shoulders, and spreading her tail—sometimes even reaching out the bill as if seeking to be caressed. After a liberal exhibition of this pretty coquetry, they seem to come to a mutual understanding to unite their destinies, she accepts his caresses, and the match is made. Then comes the search for a nesting-place: the cock usually makes the selection and seeks to induce his mate to join him. If she is coy and not ready to go to nest just then, he attempts to drive her to the work, and they go trotting about the loft, the hen in advance, the cock following, and, whenever possible to reach her, striking her with

his bill and sometimes punishing her very severely. Although seemingly mated, they do not appear ready to commence breeding, and at this stage



A WHITE MALE DRAGON
Six months old

it is better to separate them, since, in his persistent mood, he will abuse her and frequently batter her head so it is a mass of bruised and bleeding flesh. The conditions I have named are where pigeons are left to themselves, to pair as they are inclined and not with a view to perpetuate and improve certain distinctive points or characteristics. On the other hand, knowing the origin of the stock of young birds and having determined in your own mind which, if mated together, will be likely to produce the best results, the following method is suggested: As soon as it is

definitely decided which are males and females, select such males as you intend to breed from and place them in one portion of the mating-cage, allowing them to stay there alone for a few days, to become accustomed to the situation. As soon as they begin to show signs of feeling at home, place the hens you have selected for them in the adjoining apartment, feed and water them regularly every day, at same time giving them a little hemp and canary seed. In a few days you will, if all goes well, note the same actions I have previously described when they were at liberty. They will kiss, as it is termed, through the openings between the partition wires and show every evidence of satisfaction with each other. At this stage, you can select the apartment in the breeding-room you desire them to occupy, place a nest-pan therein for them, as described in a previous chapter. Should they, upon being liberated, seem to prefer some other apartment, if it does not conflict with original plans, they may be allowed to retain it, as they will work more contentedly than if they are changed. When once

they select a satisfactory location, it is hard to get them to accept another. Some pairs will select a corner on the floor and, although you may confine them for days in a location you think suitable, when liberated back they will go to their old location. In about ten days or two weeks after mating, the hen will show indications of laying. The cock will seek the nest, calling to the hen, with a deep, heavy coo, after which she will join him; after billing and love-making for a time, he will start out looking for material to construct a nest. To gratify this natural demand, I usually keep a little coarse hay, cut in pieces three or four inches long, scattered about. He will carry these to the hen, and she will adjust them in the pan to suit herself. Whenever she leaves the nest, he will follow her about, attempting to drive her back to her duties, and it is at such times, as I have previously remarked, that he is sometimes very severe. The breeding-room should contain nothing but mated pairs. Any surplus cocks or hens are sure to make trouble. For this reason, it is always convenient to have two or even three separate rooms; one for odd males, one for odd females, and another for young birds as soon as they are able to care for themselves.

The hen usually lays two eggs, one day elapsing between the first and second. After having laid her first egg, which is generally between five and six o'clock in the evening, she and the cock alternately stand over it, to protect it from the intrusion of other birds. The second is laid usually between two and three o'clock in the afternoon of the third day, when they settle down to hatching in real earnest. The hen sits from three or four o'clock in the afternoon until about ten the next morning, when she is relieved by the cock who sits till afternoon, when he is again relieved by the hen, and so they alternate until the day of hatching arrives, which is the seventeenth day after the second egg is laid.

When the time arrives for the eggs to hatch, the little stranger makes his presence known by a chipping sound within its prison, which can be heard if the egg is placed close to the ear; also a crack will appear. The shell will be found entirely broken and the little biped a free bird the next day, provided it be strong enough to get out of the shell. When first hatched, they are covered with a yellow down, or fine hair, and are ugly-looking, helpless little things, totally blind. The old birds begin feeding them about three or four hours after hatching, taking the bills of the young in their mouths and injecting from their own crops the predigested food into that of their

young. By a peculiar provision of nature, about the time the young birds will require food, the food taken by the old birds is changed into a milky fluid, and this is what the little "squab" is fed upon until large enough to take the grain whole from the parent birds. At first they grow slowly, until about the fourth day, when they become stronger and gain very fast. By the seventh day, the pin-feathers will appear and the yellow down disappear; after ten or twelve days, they are quite large and the pin-feathers partially broken, and by three weeks the youngster is able to walk, but can seldom feed itself before it has reached the age of five weeks. From this time on, it can, if left to its own resources, look out for itself. Even after being able to feed itself, it will run after the old birds whenever it can, teasing to be fed by them. It is not uncommon when young birds are running about the floor of the loft, to see two or three after one old cock, squealing and teasing to be fed. A good-natured cock will stop and feed them, but an ill-natured one will often turn on them and punish them severely, pecking their heads and backs terribly. For this reason, I would again advise a separate room to place the young birds in, thus preventing them from annoying the old birds and from being in turn abused. Where many breeding pairs are kept, each apartment should be plainly numbered; then when the first egg is laid, it can be taken away and in its place a dummy egg can be placed, made of plaster or marble, or a natural egg, hard-boiled. This first egg should be numbered the same as the apartment. This should be kept in a moderately warm room until the second egg is laid, when the dummy can be removed and the first egg returned to the nest. In this way, both eggs will hatch at nearly the same time. If the first is left in the nest until the second egg is laid, it will hatch two days before the other and there will be such a disparity before many days in the young birds that the larger bird will get the most of the food and the last-hatched suffer accordingly. Removing the first egg is troublesome where there are many pairs, but it pays for the trouble. It is singular, but match birds at any time you may, the first egg will come between five and six in the evening, and the second between two and three o'clock in the afternoon of the third day. By keeping a book record, the breeder can tell the hour of hatching, and, when expected, look at the nest-pan about six o'clock in the afternoon. If the egg be laid on time, note it in a book, inscribing the number of pen and date of day. For instance, suppose the first egg is laid on the first day of the month and the second on the third,

add seventeen days for sitting from the last egg, making it the nineteenth from the first. It sometimes happens that only one egg is laid, and then again there may be three; but this is very rare. If, after the third day, you find no additional egg, you can then give the hen the first egg laid and if you have an extra egg, laid about the same time, this can be given her; otherwise I would advise letting the dummy egg remain in the nest. Should there by chance be a third egg, allow only two to remain, as, if two birds are hatched, it is about all the old pair can attend to successfully. Some young hens, when laying the first egg, lose the use of their legs, but it is only temporary.

While going the rounds to look after fresh-laid eggs, look at eggs ready to hatch that day, and see whether they show signs of the shell's cracking, for often a little judicious assistance rendered at such a time will save the life of a valuable bird. Particularly should this be done in the early spring, when the young in the shell are more delicate and weakly than later. If an egg does not chip by the time it ought, namely, in the course of seventeen days, the fancier should hold it to his ear and, if the young one makes a crackling noise and that pretty briskly, he may conclude it will soon break through the shell. When it has so chipped, if the young one should not succeed in its endeavors to break the shell as much as the fancier thinks it ought to have done in the time it has been working at it, and does not show as much energy as when first heard, it is a sure sign that the young bird is weakly and almost exhausted, and requires assistance. In this case, he should gently tap with the finger-nail or the head of a pin in a circle around the egg, in the same manner as it had been done from within by the beak of the young bird itself, remembering to let in a little air, which may safely be done at the place where the beak lies—no blood will issue from it. In this way, the little fellow will be greatly assisted in extricating itself from its prison-house and its little life preserved. Particular care should be taken not to prick a hole in any other part of the shell than in the place above mentioned, as it would make the youngster bleed, which would be dangerous in the extreme. If it has been moving about in the shell so long that all the moisture or blood in it has been absorbed, and has, by its circuitous motion, rolled up the little caul or membrane in which it is enveloped whilst in the egg, it may safely be set at liberty, taking care to return it to the care of its parent as soon after as possible. When it is disengaged from the shell, a portion of the yolk will be seen to be attached to its body, which will nourish it for a day or two,

if the old ones should not happen to feed it immediately. After pigeons have been sitting four or five days, it is easy to tell whether the eggs are fertile or not, by holding them between the eye and the light; if dark and opaque, they are fertile, and you can, after the usual time, expect good results; if clear and light-colored, they lack the life-germ, and you can, if you have other eggs, exchange them for fresh eggs, throwing those that are infertile away. If one is fertile and the other not, and you have no eggs to exchange, it will be best to leave both eggs in the nest until the fertile egg hatches, when the other can be removed. Sometimes two pairs due to hatch about the same time have each one infertile egg. In this case, both infertile eggs can be removed, and the fertile one of one pair given to the other, and one pair broken from sitting entirely. These will soon lay again, and thus time be saved by one pair doing the work of both. In making the exchange, if one pair is known to be better feeders than the other, the fertile eggs should be given to them. Many fine birds, after a few days' nursing, refuse to feed their young, a seemingly unnatural and certainly unaccountable condition of affairs. The novice is at a loss what to do, but the man of experience takes the place of nurse, chews up some stale, dry bread until it becomes soft and chyme-like, then taking the bill of the young bird in his mouth, by the aid of the tongue injects this fluid into the young bird's mouth and so saves its life. It is astonishing how quickly the squab learns to eat in this way, and, as it grows, how eager it appears at the approach of its feeder. As it increases in age and size, he chews corn, peas or wheat, and the little fellow takes it and thrives on it as well as on the bread. This, to some, would seem like rather an unpleasant and not very neat performance, but the true fancier, in his desire to raise his little pets, sets all squeamishness aside, and practice soon causes him to forget any of its disagreeable features. If the breeder cannot bring himself to this, a small syringe with a good-sized opening can be used, the food being first made into a fluid mass and then injected into the mouth, and should be fed luke-warm. Farina or any of the fine cereals prepared for family use can be used. Experience will tell which are the best. Some fancy birds are notoriously bad-feeders and, where large numbers are kept, many breeders use varieties that are known to be good feeders and to be relied upon to act as wet-nurses. In this way, many valuable birds are reared that, if left to their own parents, would be neglected and die. Hatching a little wonder is one thing, and rearing it is another. When you consider

how early some pigeons begin to decline sitting on their young, careful shifting becomes quite important to successful rearing of what is hatched. They begin to get restless as early as the sixth day; the ninth or tenth day they will be off the nest for an hour or more at a time and get calling to nest again. The young ones, left exposed to the air before they have a feather upon them, die of cold with their crop full, and in no way can the old birds be induced to resume their care once they have deserted them. To obviate this, the fancier should shift them under another pair that have not hatched so long. He should kill the young ones he takes away from such other pair, if he has not a shift for them. In doing this, he gets these transferred young ones an additional supply of warmth from being sat on and also a fresh supply of soft food from the foster parents' not having hatched or fed so long, their soft feed not being yet exhausted. This changing should be done only where the deserted birds are the most valuable. If both are of same variety and of equal value, there is some risk to be run in making the change, and nothing really to be gained. But it is practicable and beneficial when ordinary birds are employed as feeders. Barren females are quite common among pigeons, and nothing can be more disappointing than to find, after paying a long price for a fine pair, that the hen does not lay. Sometimes the pair will go through all the amatory performances of a fine breeding pair, and the hen sit regularly on the nest, but there is no appearance of eggs. If an old hen, there is no hope for any different results, but if a young hen, we have sometimes found that, by giving her a fresh pair of eggs when the desire to sit shows itself, and allowing her to feed and raise the young birds, which the pair will often do, the egg-laying habit returns to the hen, and she will breed as well as any other. When the old birds show a desire to build again for a second pair, place a clean nest-pan on the opposite side of the apartment occupied by the first nest, preparing it like the first, whereafter the old birds will continue to feed the young, if good nurses, and they can be allowed to stay in the nest until able to care for themselves, when they should be placed in the room set apart for young birds. The nest-pan and apartment they occupied should be thoroughly cleaned and thus made ready for occupancy when the old birds are ready to lay the third pair of eggs, and so on through the season. Whilst incubation is progressing, the less pigeons are disturbed the greater are the chances of success. It is well enough to move among them quietly, so that they may become accustomed to one's presence; but, until hatching

is due, there is no necessity for handling the birds except to ascertain whether eggs are fertile or if some other necessity arises. Sometimes during incubation or while the squabs are too young to help themselves, a nest will become infested with vermin: in such a case, a new nest must be prepared, which can be quickly done by providing a clean nest-pan with a fresh layer of sawdust and transferring eggs or squabs to that. A thorough sprinkling of the apartment holding the nest-pan with disinfectant, or, what is better, with some one of the various vermin exterminators, will soon drive away the pests that have many a time caused the loss of a valuable pair of eggs or squabs. Instances occasionally occur where a strong male will desert his own mate and coax away the hen of another pair; it may be a very undesirable mating, and the only way to break it up is to remove the unfaithful hen and her original mate to another room, for, as long as the offending pair are kept within sight of each other, they will seek each other's company. In mating pigeons for improvement, pairs should be brought together in which the characteristics desirable to improve are strong in each individual. When it is not possible to have both of the qualities desired, good results may be expected if the one deficient is descended from good parents. But nothing good can be expected where both are deficient in good qualities, even though they may be descended from good parents. Many fanciers purchase poor specimens known to be descended from good stock, flattering themselves that they will raise good birds from these and so be able to lay the foundation of a high-class flock at small cost. This is a fallacy, and poor economy as well. While color is an important feature in the breeding of pigeons and requires much judgment in mating to produce perfection, it is still secondary to other features that go to make quality in pigeons. For instance, a good Carrier, a good Barb, a good Pouter, or a good Fantail, may be of any color, as long as they possess in a high degree the qualifications required in good birds of these kinds. Possessing these fine qualities in perfection, color then comes in as a finishing touch. The colors common to pigeons are black, dun, blue, red, yellow, and white, in various shades and mixtures, and to produce these in all their variations satisfactorily, requires thought, study, and a thorough knowledge of the breeding of the birds you mate together. For instance, blacks and duns produce a better black when mated together than two blacks, and the duns from this mating will be better than when two duns are bred from. So reds and yellows together make richer colors

than reds and yellows alone. Blacks and reds often produce a richer red, and the red progeny of this cross bred to a yellow will make a deeper, richer yellow. Duns bred from blacks crossed with yellow improve the color. To breed yellows together too long, with no other shade introduced, will produce a pale, washed-out shade. So with reds, it needs occasionally a cross of black to keep the color from fading out. Blues will bear a cross of black, or dun bred from black, once in a while, but reds and yellows should never be crossed with blue. White, of course, must be kept to



RUFFLED MOORHEADS

A "German toy" pigeon—the toe feathering is unusual

itself, for any admixture of color leaves a stain it is difficult to get rid of. I speak now of solid colored birds. Of course, where the white and other colors are found in one bird, like the Turbit, the swallow, the Nun, etc., the same principle will apply to them as to solid colored birds. Birds with black wings and heads can be crossed with reds and duns, and reds with yellows, and so on. What are known as silver-colored can be occasionally crossed with blue to deepen the color. There are so many parti-colored pigeons that it is hard to lay down a law for them. The proper mating of them requires a knowledge of their breeding and to know where a dark or a light strain can be best used.

The other features besides color that go to make up a perfect specimen

in fancy pigeons are the eyes, the bills, the feet, the crests, the frills. Each separate variety has some one or two of these features peculiar to itself that must be perfect in form, shape and color to be right.

Take the Turbit, for instance: it must have in connection with its colored wings, a short, thick bill, a shell-crest, or a pointed arrangement of feathers springing from the base of the skull and turning forward, and a cluster of loose feathers extending down the front of the breast, known as the frill. The Swallow should have the shell-crest, colored wings, a long bill, and its feet and legs covered with long feathers, colored same as the wings and top of the head; and so, through the whole list, each variety has some qualities aside from color that distinguish them one from another, and the matings should be at all times made with a view to producing these fancy points in perfection. If, after a fair trial, you find pairs do not breed well together, they should be separated and given new mates that in your judgment will be likely to produce what you require. It is, after all, much of a lottery, and only made successful by patient study and experiment.

CLASSIFICATION OF PIGEONS

The varieties of fancy pigeons are very numerous, and for a time no attempt was made to distinguish them one from another, but with the advent of pigeon and poultry shows it became evident that they must be divided into classes to be more properly displayed and judged. Experience has taught those interested that some varieties possess points and properties in which color and markings play no part in making them distinct breeds. They should therefore be separated from those which differ in color and markings alone from the common pigeon of the street or fields. These specially distinguished pigeons have always been considered the lords of the fancy, and when classification became necessary, they were placed at the head of the list as High-class Fancy Pigeons. They are: the English Carrier, the Pouter, the Barb, the Short-faced Tumbler in all its varieties, and some authorities count the Runt also in this class.

Following these we have a class of pigeons noticeable not only for their markings, but for certain peculiar arrangements of the feathers on head, neck, and breast that distinguish them from one another in the same way as the qualities do among the high-class pigeons. This second lot are designated High-class Toys, and include Turbits, Jacobins, Owls, Trump-

eters, Fantails, Dragoons, Scandaroons, Frillbacks, Priests, Brunswicks, Oriental Frills, Antwerps and Florentines or Hen Pigeons.

Then we have a third class in which color and markings are alone the distinguishing characteristics, and bereft of these the varieties would appear so much like the Dove House Pigeons as to lose their identity entirely. To this class belong the Nuns, Magpies, Swallows, Helmets, Spots, Archangels, Suabians, Shields, Ice Pigeons, Starlings, Breasters, Moorheads, Long-faced Tumblers, in all varieties, Porcelains, Hyacinths, Quakers, Lahores, Mookies, and many others known in Europe and Asia that have either never been introduced into America or have become extinct. Most of these varieties are clean legged, but a few are feathered on the legs and some show both plain-legged and feathered-legged specimens. These appendages do not constitute a property, although they add in many cases to the attractiveness and beauty. Again, some are smooth-headed; others have a cap or shell crown at the back of the head, and still others a tuft of feathers rising to a peak at the same spot. Without the special coloring peculiar to the variety none of these attractive points would be a distinguishing feature.

In breeding for pleasure this classification is of little moment. As in the case of floriculture, each fancier chooses the variety he admires, without regard to its class; but in arranging for exhibition, classification is of great importance, as the high-class pigeons could not reasonably be expected to compete with the second class or Toys, as they have no properties in common. A brief description of the favorite varieties of American fanciers will now be given, with the features that distinguish them at the present time.

FAVORITE VARIETIES IN AMERICA

The English Carrier has long been considered pre-eminently the king of fancy pigeons. Its distinctive traits are so far removed from those of the common mongrel pigeon that it seems impossible they should both spring from the same source; and these qualities go far to substantiate the belief that the many varieties of pigeons could not have been accidental variations, produced by domestication. In size the Carrier is known as large, measuring from the point of the beak to the extremity of the tail, when extended, about sixteen inches. In carriage it is bold and upright. It has a long head and beak; upper and lower mandibles of equal thickness, and the

length from the center of the eye to the tip is from two to two and one-quarter inches; eyes, large, prominent, bright and surrounded by a carunculous substance known as the wattle. This should be large and as near a true circle as possible, with the wattling evenly distributed. At the base of the beak should be an accumulation of carunculous matter, similar to the eye wattle. This also should be large and full, separated from the eye wattle, tilted slightly forward, and in form resemble a cauliflower. The greater the development of both eye and beak wattle, so long as even distribution and symmetry are maintained, the more highly the birds are prized. What is known as the "Jew wattle" is a similar formation under the beak, and this must conform to the shape of the upper wattle. The neck should be long and slender, from the head to the shoulders, and cleanly cut at the gullet; breast broad and full; back, broad and slightly hollow between the shoulders, the wing butts standing well out from the body; wings and tail, long, of equal length and closely folded; thighs, long, prominent and muscular; legs, long and stout; feet large, and furnished with long nails. The color is solid, that is, clear and even, without admixture. The colors peculiar to the variety are Black, Dun, Blue, Red, Yellow, and White. The Blacks should be a rich glossy black. The Duns vary in shade but should be even, whether dark or light. The Blues should be a bright, clear, even blue, with jet-black bars across the wing coverts; a black band near the end of the tail feathers; flights dark in color, and neck a darker shade than the body but glossy and brilliant. Yellows and Reds should be deep in color, clear and rich. The white should be spotless. The eyes of Blacks and Blues should be dark red; Duns, Reds and Yellows a clear pearl; Whites dark or what is known as bull-eyed. The color of legs in all varieties is coral red. A peculiar feature in Carriers is that the Black, Dun and Blue always exceed the Red, Yellow and White in development of wattling. No amount of careful breeding and selection has been so far successful in bringing the three last-named varieties up to the standard of quality produced in the three first. While the colors named are recognized as standard by the judges, a bird will frequently be bred with a mixture of white in it, that possesses all the other distinctive features of a standard-bred Carrier, and as such would be selected from any promiscuous crowd of pigeons.

The Carrier has a strong love for home, and in earlier times was used for messenger service, but the birds of to-day, on account of the great

development of eye and nose wattle, would be ill-adapted for long-continued flights. They are shy, rather unfriendly birds, but fairly good breeders and nurses, although many fanciers, in raising them, prefer to set their eggs under other varieties, known to be good feeders and nurses, that can be given their liberty, thus insuring stronger and more vigorous progeny.

THE POUTER

The variety of pigeon known as the English Pouter is believed to have been produced by a cross between the old Dutch Cropper, or Pouter, and a Carrier, and then bred back to the Pouter until no trace of the Carrier remains. This bird might well be called the Beau Brummel of the fancy, because of its jaunty, foppish manner. Others of the pigeon family have pretty ways, but none are so stylish and showy as the Pouter.

Its head and beak should be of medium length and its head smooth. Its chief property, the one from which it is named, is the crop, which it can inflate at pleasure. It should be large, reaching to the beak, passing round the neck and resting on the shoulders, and, when inflated, should be as round as possible. When extended it should measure, from end of beak to tip of tail, not less than eighteen inches and be as much longer as possible. The body should be slender and not coarse; the legs, long and plentifully feathered with short, soft feathers to the ends of the toes. They should measure, from hip joint to the end of the toe nail, at least seven to seven and one-half inches, and the longer the bird the longer the leg should be, to give the required style and station. Wings and tail are long and closely folded; carriage, erect and stately, at its best when the bird is strutting or playing. When it inflates its crop, spreads its tail and struts, with a dainty mincing gait, it makes itself very attractive. A good Pouter can be of any color, but the preference is for pied. Hence we have Blue, Black, Red or Yellow Pied, as well as pure White. In a pied bird, on the front part of the crop should be a white crescent-shaped marking, extending from one eye to the other, wide at the center and narrowing to the ends. The nearer to perfection the shape is the better. On the wing bows should be a few white feathers, disposed in a crescent or circular form called the rose. The thighs and legs, as well as the ten flight feathers of each wing, should be white. The tails should be the same color as the bodies, but in Reds and Yellows, white tails are allowable, in consequence of the difficulty of producing them the same color as the body. It is no

easy matter to evolve a specimen perfect in every respect, especially in coloring. When one such is produced it is considered a great achievement in breeding, and the bird is very valuable. As the Pouters are rather indifferent breeders and nurses, the fanciers find it best to keep a number of foster parents that are known to be reliable in this respect.

THE BARB

This is one of the oldest varieties of fancy pigeons, being among those mentioned by Aldrovandus, one of the earliest writers on pigeons, about the year 1600. Some writers claim that they originally came from Barbary and that hence they derive their name, but, like many another feathered pet, their origin is lost in obscurity. They are an attractive variety, but have only a few admirers and are not so generally bred as some. Their being rather poor nurses makes it difficult to breed specimens up to the standard. They are medium in size, weighing about twelve to fifteen ounces. The head should be large, with square skull, of equal width from front to back, and as broad as possible. The eyes should be pearl-colored in all the colored specimens, and dark or bull-eyed in the white. Around the eye is a cere, or circular collection of carunculated flesh, similar to that in the English Carrier. This should be evenly proportioned all around and stand well out, slightly above the skull, be quite thick on the edges and free from spouts or irregularities. This forms a very attractive feature if the bird is in perfect health, when it should be bright red. In the White specimens, this feature is very striking. The beak is short and massive, both mandibles of nearly equal thickness, and with a slight drooping tendency called "down-faced." The beak wattles are small, fine in texture, evenly divided, flesh-colored and free from stains. The neck should be short and stout, tapering gracefully from the head to the shoulders; breast, broad and full; back also broad; legs, short, free from feathers, well set on the body and coral red in color; feet, medium in size; wing butts, standing well out; flights, medium in length; tail, also of medium length and well folded. The favorite color is Black, although Duns, Reds, Yellows and Whites are as often bred. The Blacks exceed all others in the desirable properties that distinguish the variety. Many attempts have been made to breed Blue Barbs, but none to my knowledge have so far been produced. Nature has baffled the fancier in this direction, as she has the gardener in his attempts to produce a blue tulip.

SHORT-FACED TUMBLERS

This variety of high-class pigeons, unlike those already described, is noted for its diminutive size; its delicate formation and dainty, attractive manners. As in the case of the Barb, few attempt to breed it because many obstacles present themselves; but, like all other high-class pigeons, when a fine specimen is produced its value is inestimable. The standard points are the head, the beak, the eye, the carriage or shape, and lastly the color. A truly good Short-faced Tumbler may like a Carrier be of any color. The chief distinctive point is the head, which should be round, broad and high; the forehead very full and prominent, overhanging the beak to form something like an acute angle where the head and beak join, making what fanciers call a good stop. It is very difficult to produce this in perfection. The beak should be short and fine, the upper mandible slightly the thicker. In length it should not exceed five-eighths of an inch, from the center of the eye to the end of the mandibles. The wattle about the nostrils should be fine and in no way prominent. There is a tendency in the beak to grow long and spindling. Some fanciers make a practice of trimming it for exhibition, so that it may appear shorter than it really is, but an expert can soon detect the fraud. The eye should be bright,



SWALLOWS

These birds approximate the old Rock Pigeon type

full and prominent, and a clear pearly white. This is another feature in which it is hard to arrive at perfection, as there is a tendency to produce an eye of a reddish tinge, known as a gravel eye. In form this variety should be small, compact, well rounded in body; the neck, short, tapering gracefully to the head; the chest, full, broad and prominent; back, short; tail, short and closely folded; wings, short, with pinions or flights carried slightly below the tail and nearly touching the ground when the bird struts, with head erect, and chest thrown out, stepping on its toes. No prettier sight can be witnessed in the loft, than a well-bred Short-faced Tumbler parading before its mate.

The Short-faced Tumbler is of many colors, plain and mixed, but the Almonds, the Mottles and the Baldheads are the favorites. These are all difficult to breed to perfection, and are valued in the order named. The Almond, the most admired and most difficult to breed to feather, should be a rich bright yellow, mixed or broken with jet-black and white. Each feather, particularly those of the tail and wing flights, should contain the three colors as clear as possible. As may be imagined this is hard to obtain, but therein lies one of the pleasures of breeding the variety. The name is supposed to be derived from resemblance in the main color to the inside of an almond-shell. The Mottles are solid in color, with the exception of a cluster of white feathers on the wing bows, called the rose, and a triangular patch of white feathers between the shoulders, known as the handkerchief. The nearer to perfection these can be produced, the more valuable the specimen. Mottles are found in all the colors known to pigeons, but black, red, and yellow are the favorites. The Bald Short-face has all the Short-faced properties combined with the white head, from which it derives its name. It has also white flights, white tail, white thighs and vent; the balance of the body, colored.

The Beard, another variety of the Short-face, seldom seen, has as its distinguishing feature a crescent-shaped patch or marking of white on the throat just below the bill. The points of the crescent extend from eye to eye. The tail and flights are also white; the balance of the body solid colored. All of these varieties, when produced in perfection, show the acme of high-class breeding. Where white appears in any of them it should be clear and spotless, free from any foul feathers or blemishes. One advantage in breeding Short-faced Tumblers is the limited accommodations they will put up with and still thrive and do well.

THE RUNT

This pigeon has little beyond its great size to attract the attention of the fancier. In this feature it exceeds all other domestic pigeons and for that reason finds some admirers, though being difficult to breed it has never become a general favorite. It is long in body, and when extended frequently measures from twenty to twenty-one inches from end of beak to extremity of tail. The body is thick and well rounded; head, large; eyes, sunken; beak, of medium length, but thick, upper mandible being a trifle heavier than the lower; neck, short; breast, full and round; carriage upright; feet, large, coral red in color; tail, short; wings, carried close to the body; flights, meeting and carried just above the tail, reaching nearly to its extremity. If they could be successfully bred, this would be "par excellence" the pigeon for the squab-raiser, as the squabs, when mature, weigh from one pound to one and one-half pounds each. On account of their scarcity and high price, the squab-breeder would not be warranted in investing in them for this purpose. Eaton, an early English writer on pigeons, mentions some that weighed four and one-half to four and three-quarter pounds per pair. They are found in all colors, but those most common in American show rooms are Blacks, Blues, Silvers, and, occasionally, some very good Whites. In breeding them, it is customary to use foster parents for the young, as the Runts are poor sitters and nurses. Contrary to the usual custom, I have in this classification placed them among the high-class varieties, on account of their scarcity and the high price at which they are held, and also because they could hardly be classed as Toys.

THE HIGH-CLASS TOYS

This class of pigeons, usually placed second to the Carriers, Pouters, and Short-faced Tumblers, have features that make their title appropriate, be their color what it may. Certain markings, peculiar to each variety, have become so fixed that the offspring never vary from the original stock. Excepting some of the very shortest-billed specimens, they are all good breeders, feeders, and nurses, and need no assistance from other varieties in rearing their young. The ease with which they are bred, as well as their beautiful appearance and lower price, make them more general favorites than the high-class pigeons, and, consequently they are found in larger numbers. They must, however, be watched and properly

mated, to produce the best results, for there is a tendency to deteriorate. A lot of mediocre and unsatisfactory birds result from carelessness and neglect, so that thought, selection and watchfulness must be exercised and a thorough knowledge of ancestry and breeding obtained if good specimens are to be produced. Heading this list, and coming very close in high-class properties to the varieties named in that class is

THE TURBIT.

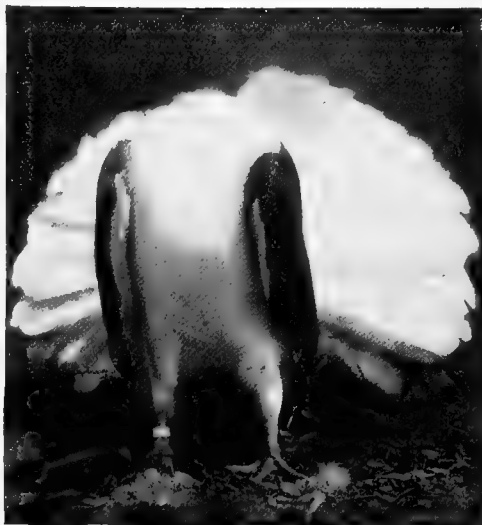
This charming member of the pigeon family is one of the brightest and most active of the Toys. Close and compact, it is slightly below the medium in size, but cannot be classed as small. It is a very old variety, being mentioned by Willoughby as far back as 1678. The origin of the name is unknown, although it may be a corruption of the word "turban," suggested by the shell crown usually found at the back of the head. On the other hand, the peculiar arrangement in coloring of the wings may have suggested to the old fanciers that much-prized edible European fish, the turbot. Brent says the English name is probably derived from the Latin word *Turbatus*, which refers to its frill, or ruffle. Its head should be broad, rather angular, and, according to some authorities, should resemble in shape the head of a frog. Its full, bright eye is the kind called bull's eye. The bill is short, of about equal thickness, and has a tendency to droop, making what is known as a "down" face. Beneath the beak, and extending down the front of the throat, is an extra development of the skin known as the gullet. This relieves the angular junction between the beak and the neck and causes the beak to appear shorter. Below this, and extending down the breast, is a curious formation of soft feathers, that reach from a central line outward each way, called the purle, or frill. This varies in size in different specimens and the larger and broader it is, the more the bird is prized. At the back of the head, in some specimens, is a shell-like formation of stiff feathers turning to the front, called the shell crown. In others, the feathers form a point, and these—known as point-headed—are to-day the most esteemed.

The colors are varied, some having the body entirely white, with exception of the wings to the primary feathers, which may be black, blue, red, yellow, silver, dun, or checquered. The ten flights of the wings, and tail are also white. Then we have Turbits of solid colors with not a speck of white, and some again are all white with colored tails. The legs should

be clean, or free from feathering, feet small and coral red in color. The desirable points bred for are shortness of face and development of crest and frill. The constant tendency to retrograde calls for unceasing watchfulness and good judgment in mating to keep up a high standard. They are naturally good breeders, sitters, and feeders, but the shortness of beak in some specimens interferes somewhat in the last particular, and it becomes necessary in such cases to employ feeders.

THE JACOBINE

The Jacobine Pigeon is doubtless so called from its white head, and the peculiar arrangement of feathers about its head and shoulders, suggesting a resemblance to the Jacobine Monks, who shaved their heads and wore a cowl or hood to their cloaks. It is one of the most attractive of High-class Toys, and was in earlier times classed among the smallest of pigeons, but at present it comes nearer to the medium size. The desire to produce birds with the large development of feather about the head and shoulders, known by fanciers as the hood, mane and chain, has resulted in an increased size of body, necessary to the carrying of this greater length of feather. The head, as I have said, should be white. The eye, what we call pearl; the beak, flesh color. At the back of the head is a growth of narrow, soft feathers, which turns to the front, forming the hood, and the longer and more close-fitting this is, the better. Extending from the hood down the side of the neck, is a growth of this same kind of feathers, which divide as they go downward, a portion turning to the front, the remainder to the back. Those at the back which meet from either side above the neck, are known as the mane; those at the front, joining on the breast, are called the chain. These feathers, parting from a common center, form the rose, and the greater the development of all these marks the greater in



A SADDLE FANTAIL

The head is always invisible with the forward carriage

value, from a fancier's standpoint, is the bird. When these feathers are too soft to stand well up on the back, there is a great objection to the specimen and its value is decreased proportionately. A compact, rather close-feathered bird, with long chain, upright mane, and close-fitting hood is our ideal of a Jacobine. In the nearest perfection, among the birds that we see, the rose is well developed; it has a good pearl eye, a short bill, and a "down" face, that is, one in which the bill has a tendency to droop instead of standing straight out from the head.

In color they are the same as most fancy pigeons, black, red, yellow, white, dun and blue, the body being of a solid hue which extends from the head to the thighs and vent, while the ten flight feathers of the wings, the tail and head are all clear, spotless white. In the five first-named colors, the development of the essential Jacobine qualities is not difficult, but nature so far has seemed to balk all attempts at perfection in blue, though breeders have for years been attempting to bring it up to the high standard of the other varieties. I have so far seen but little advancement beyond the birds I knew and owned twenty-five years ago. A blue Jacobine with the fine development of chain, mane, and hood, as seen in blacks and Reds, would be a beautiful bird. Jacobines are fairly good breeders and feeders, and I have known couples to raise as many as six pairs of young in a season. This is uncommon, but a result of careful attention to the wants and requirements of the birds. Mottled, strawberry tinted, or others 'off colored have often good Jacobine qualities, and are, therefore, useful in crossing, when their antecedents are known. The legs of the Jacobine are short, coral red in color, and should be free from feathers; feet, small and clean with flesh-colored toe-nails. The Jacobine is a very old variety, but interest in it never seems to wane, and, as it improves in quality, it awakens a stronger love in the hearts of its admirers.

THE OWL

The Owl Pigeon is a small bird which probably derives its name from its round head and short, curved beak suggesting a resemblance to "the Bird of Night." Its head should be as nearly globular in form as it can possibly be, and in the larger, or English variety, it should have what fanciers call a massive appearance. The beak should be short, stout, with a strong, downward tendency, and overhanging at the tip. The eyes should be full, bright, as near as possible to ruby red in color, and surrounded by

a small, light-colored cere, very fine in texture. The wattle about the beak should be small, fine in texture, and should fill up the space between the head and the beak, thus completing the rotundity of the head. From the lower mandible of the bill down the front of the neck is an extension of the skin of the throat termed the dewlap or gullet, which adds to the apparent shortness of the face, and a liberal development of this is considered an acquisition. Where the dewlap ends, a row of short, soft feathers begins, opening outward and increasing in size as they extend, until they form on the breast an almost complete circle, called the rose. The larger and more perfect this formation, the more is the specimen prized. The body of the Owl is short, plump, and broad-chested, the breast being full and prominent. They should be solid in color, that is, entirely free from spot or blemish. They display the usual hues—black, blue, red, yellow, dun, white, or silver, and white with colored tails. These last are very attractive pets. In addition we have them in the colors termed powdered blue, and powdered silver. Silvers and Blues alike have two bars, either black or red, across the coverts of each wing. The tails of all varieties are short, and the ends of the wing flights meet above the tail. The legs are free from feathers and coral red in color.

Distinct from the English variety of Owl, is that called the Chinese Owl, which has all the owl properties, with the addition that the frill of the breast spreads out below the jowls or cheeks, and extends along up the side of the neck nearly to the back of the head, giving the bird a unique appearance. Then there is a variety, one of the smallest of fancy pigeons, known as the African Owl. This also should have all the marks of the Owl family, though not in quite so pronounced a degree as the English Owl. It is rather delicate in this climate and consequently not so successfully bred as the English. Owls are usually good breeders and nurses, although some of the shortest-billed specimens find it difficult to feed well and feeders have to be employed for them.

THE TRUMPETER

This variety of the domestic pigeon is supposed to have come originally from Egypt or Arabia, although of late years some of the finest and largest specimens have been brought to us from Russia. It derives its name from its prolonged, gurgling coo, that seems more like water flowing from a long-necked bottle, than even the distant sound of a trumpet. It is above



A SATINETTE ORIENTAL FRILL HEN
The Frills belong to the Turbit and Owl race of pigeons



A RUNT HEN
The Runt is the largest of domestic pigeons

medium size and the larger specimens are the more valued. They are short necked, broad-chested, and low of stature. Their other peculiar properties, besides the voice, are the shell crest and the rose. The former is composed of a row of rather short, stiff feathers, starting from the base of the skull, curving forward and extending from one side of the head to the other in resemblance to the form of a shell. This should not be set close to the head, but must be regular and well formed. The rose is a tuft of soft fine feathers, springing from the head at the base of the beak, and radiating from a common center outward, as its name implies, somewhat in the shape of a rose, the larger the better. It gives a singular appearance to the bird, and is often large enough to obscure the sight so that it has to be trimmed, that the pigeon may find its food. The feet and legs are heavily covered with feathers, those on the toes being so long and stiff as to interfere somewhat with locomotion, but still they are considered requisite to a perfect Trumpeter.

In color the birds are solid black; black with shoulders mottled with white; dun, and dun mottled; pure white, and white spangled with black. Blues and Reds have been exhibited, but neither have shown such fine Trumpeter qualities as the other colors. The eyes should be pearl, bright and prominent. They are fairly good breeders, but their heavily feathered feet are apt to break the eggs or throw them from the nest, and for this reason foster parents are usually employed in hatching and rearing the young. The Trumpeter is heard to best advantage during the breeding season, when salacious and calling to nest, but, like other performers, some are better than others. The variety just described is known as the

Russian Trumpeter, but there is a smaller one known to fanciers, in which the properties so much admired in the Russian are less finely developed. But the latter, while interesting in its way, has not the voice of the larger variety and finds no place in the exhibition room.

THE FANTAIL

The Fantail, or, as the older fanciers called it, the Broad-Tailed Shaker, derives its name from the peculiar arrangement of the feathers of the tail which resembles an unfolded or open fan. The tail should be carried erect, and consist of no less than twenty-four feathers, but one of thirty or thirty-two is better still, especially if the feathers are broad and the tail carried well up and expanded. Thirty-six and even forty-two feathers are sometimes seen, but they are apt to make a tail too heavy for the bird to carry erect, and a drooping tail shows to no advantage. The fan is about medium size, but the smaller the bird, so long as it carries a fine tail, the more desirable it is. The neck is long, the head small, and the beak of medium length. The neck should be slender and swan like, curving backward, so that the head rests on the cushion or base of the tail, while the neck trembles in a vibratory motion, and the breast is elevated and well thrown out. The back should be short, the wings carried close to the sides, with flights below the tail and close together. Legs short, and either clean or feathered. In the latter case they should be well supplied with short, soft feathers. While the smooth, or plain headed, variety is the kind most generally fancied and bred, there is another in which the



THE CARRIER

The king of fancy pigeons. He is cut on racing lines, with great neck length



ALMOND SHORT-FACED TUMBLER

Small and trimly built, with shortened beak

feathers at the back of the head are raised into a point or peak, curving slightly forward. These are known as crested Fans and when, provided with large, well-spread tails, booted or feathered feet, and pure white plumage, they are things of beauty that would attract the attention of the most unsophisticated in pigeon lore. The colors common to the variety are white, black, blue, red, yellow and dun, and these should be solid, that is, free from any mixture of other coloring. The Whites, Blacks, and Blues take the lead generally in tail qualities, although the Reds and Yellows, after years of careful breeding, are gradually working up to the same high standard. While the solid colors are the general favorites, there is bred also a variety called Saddle Backs, in which the body and tail are white, the wings alone colored. Then we have a variety in which the body is all white, the tail colored; and again one in which the whole body is colored and the tails white. With so many from which to choose, the admirer of the Fan can find a great field to work in. The eyes of all those in which white predominates, have the hazel or bull eye, while the colored kinds have the red eye common to colored pigeons. The Fans are good breeders and nurses, although it is often necessary in the breeding season to secure perfect copulation, to clip the tails of the largest tailed specimens.

THE DRAGOON

This pigeon is described by all the old writers as originally a cross between the English Carrier and a common Tumbler. By careful selection and occasional crosses back to the Carrier, the shape has been preserved, likewise the distinctive length of beak and the development of wattle. An over-frequent resort to the Carrier cross is apt to render them too stout and too bulky in the wattle. The name, though spelt Dragoon, is pronounced Dragon by the majority of fanciers, but that is evidently a corruption, as the old breeders gave the name Dragoon to exemplify their idea of a mounted Messenger. Fanciers aware of this fact pronounce the name as it was originally given, and one can readily see how much more fitting and appropriate it is than the unpleasantly suggestive one of Dragon. The bird is nearly as large as a Carrier, but much more slenderly and delicately built. It should have the symmetry and hardness of feather of the Carrier, the same alert, watchful attitude, the long box beak, but not the great development of eye and beak wattle. The formation of the wattle should also be different. Instead of being rough and divided into three

parts it ought to be in one piece, slightly raised at the back and tapering off sharply to the nostrils. The eye-wattle should also be small, but smooth, and all specimens should be free from that appearance of wattle under the beak, called "Jew wattle." The head should be long; the skull broad, slightly rounded and tapering to the front; affording room for a large brain and the consequent development of that much-prized faculty, the homing instinct. Dragoons are seen in every variety of coloring, known to the pigeon family, but they should be solid colored. The blue should be all blue with no admixture of white; even white rumps not being tolerated. The back should be quite broad; wing bows, prominent; body, full and round in front, tapering nicely to the tail, which should be rather short and carried well up from the ground; wings, broad and strong, the flights reaching not quite to the end of the tail. The legs should be rather long and placed at such an angle as to give an elastic, gamey appearance to the bird. The Dragoon, possesses all the qualities of a good flyer, and is capable of doing long distances as well as the Antwerp, but it is more often kept and bred now as a show bird than a homer. They are excellent nurses and so productive that a few pairs soon increase to a large family.

THE SCANDEROON

This is a variety of pigeon but little known or admired in the United States, and consequently not often seen, even at our most prominent exhibitions. It belongs to the wattled variety of pigeon, although the wattles of eye and beak are never developed to the extent that they are in the English Carrier. They are large birds, very close feathered and pied in color, that is, white broken by black, blue, red or yellow. The color extends from a point at the back of the neck, down the back, including the tail and scapulars of the wings. From this same point of the neck it separates and extends gracefully down the sides of the throat, meeting again on the breast and covering the whole of it nearly down to the thighs, where it should be clean cut across the body. Head, neck, thighs, and vent are white; legs long and strong, ending in large feet all coral red in color. The neck should be long, slender, and slightly curved. The head, which is the most marked feature of the bird, should be long and narrow, ending in a long, curved beak. The curve begins at the back of the head and sweeps gracefully from this point to the end of the beak, which should be stout and close fitting. The longer and more curved, the more its owner

is prized. The eyes are large, prominent, and surrounded by a large, bright red cere or circle of carunculous flesh, that should extend into the beak wattle and along the sides of the beak itself, which should be flesh-colored. While the pied birds are most generally fancied, there are solid-colored specimens in black, blue, red, and yellow. These birds, like most pigeons, are of eastern origin, coming from Persia and Turkey, originally. They are good breeders and nurses, raising their young without the aid of foster parents and are an attractive pigeon for those who delight in novelties.

FLORENTINE OR HEN PIGEON

This pigeon derives its name, Hen Pigeon, from the peculiar manner in which it carries its tail, which is erect, but not outspread, like the Fantail. It is a large pigeon, with long, swan-like neck, which is carried well back, frequently when excited and while hastening to nest, touching the tail; its breast is full and carried well up and out, its wings quite short, the flights meeting beneath the tail. Its legs are long, free from feathers; they carry the body well up and make it appear larger than it really is. It has a peculiar gait different from any other variety of pigeon, especially at nesting time when the cock is following the hen about the loft, trying to induce her to go to nest. They walk on tiptoe and remind one of a dainty lady crossing a muddy walk. They are no doubt an improved variety of the Leghorn Runt mentioned by early writers and are much esteemed by the few who breed them in this country. In color they are as varied as other pigeons, but are chiefly bred in solid colors. The head is quite heavy, the beak straight and of medium length, the eyes of the solid and broken colors—orange, red, of the pure white, hazel or bull. They are hardy and good breeders and nurses, and to one looking for oddities in this line fully answer the purpose.

THE FRILL BACKS

This pigeon is about the size of the common Dove House Pigeon, and is so named for the curling feathers covering the back and wings. This feature extends also into the neck feathers, but not in so marked a degree as on the back and shoulder, where the desire is to get them to attain as complete a curl as possible. There are plain head and shell crowned varieties, and all should be plain legged or with legs free from feathering.

Colors can be as varied as desired so the peculiar characteristic of curling feathers is retained. Eyes should be orange-red.

THE PRIEST

This variety is of medium size, and according to Brent, an old English writer, "derive their name from being hooded or capped and having' the crown of the head white, bearing some resemblance to the shaven tonsure of the Catholic priests." The head is quite long, the beak of medium length, the back of the head is surmounted with a shell-shaped cap of colored feathers corresponding with prevailing color of the body; the top of the head should be white to a line running from the back of the head through the eye to where the upper and lower mandibles of the bill unite. At the base of the bill rises a tuft of soft feathers, which should separate and fall in equal quantities toward back and front. This is a distinguishing feature of the priest. Sometimes this falls equally on all sides, forming a perfect rose, but when in this form is apt to lead one to class them as English Trumpeters. The body is of one general color, with exception of the wing secondaries, which are white, sometimes edged with a reddish tinge; this, when the wings are closed, shows two white bars across the wings and is a very attractive feature. The legs are short and should be well furnished with soft feathers to the end of the toes. The colors run as usual. Those with white bars are the most desirable; they are often seen without the bar. The upper mandible of the bill should be white, the lower dark horn color. The eyes are dark or bull-eyed. They are good breeders and nurses and altogether an attractive pigeon.

THE BRUNSWICK

This variety possesses all the peculiar characteristics of the Priest, with the exception that the cap at the back of the head is white, like the top of the head and the tuft at the base of the beak of the Priest; in addition to this the ten flight feathers of the wings are white and sometimes the tail. In this variety the feathers of legs and feet should be a little longer than those of the Priest. They are a very attractive variety of pigeon, but for some reason are not popular and are rarely seen even in our largest exhibitions, and many fanciers, and even judges, at exhibitions would not know it from a Priest at first sight because of its rarity.

ORIENTAL FRILLS

This is one of the most beautiful and attractive variety of pigeons known to the pigeon fancier. Their origin, like that of all fancy pigeons, goes back to the Far East. Smyrna is said to be the spot from which they were first introduced to England and from England to the United States. There the climate is most favorable for their production, and they undoubtedly attain to greater perfection than they can in our variable climate, although they seem to be hardy. There is quite a numerous variety of them and each has its own peculiar coloring, and by this coloring they are distinguished one from another. Thus they are known as Satinettes, Sulphurettes, Brunettes, Silverettes, Bluettes, Blondinettes. These latter being subdivided into Browns, Blacks, Blues, Sulphurs, and these again into Arrow Pointed, Spangled, Laced and Tipped. Added to these is another variety known as Turbiteens, having its own peculiar markings distinguishing them from the others. In form and general characteristics they all much resemble the Turbit, excepting that their legs are feathered or muffed, they are also a trifle larger. In head properties they also resemble the Owl, as well as the Turbit. The head should be of good size, round and of one continuous curve from back to front, and from eye to eye, with no inequalities; the cheek or jowl full, thus completing the rotundity of the head. The beak should be short, thick, tending downward in conformity with the curve of the head. The dewlap, a very important feature, should commence as near as possible at the point of the lower mandible of the beak, be well developed and extend down the front of the neck to the commencement of the frill, an arrangement of soft feathers extending down the front of the breast and opening outward from a common center each way, like that of the Turbit and Owl. The shoulders should be broad, breast broad and full, neck quite long and nicely arched, the whole carriage proud and erect. The legs quite long and covered thickly with short soft feathers. In coloring the Satinettes have only wing covers and tails colored, the rest of the body pure white. The ground color of the wings is a pinkish brown, graduating to a lighter shade; over this the pencillings of purplish black are formed, being darkest at the butts and growing lighter as they extend downward. There should be at least seven of the ten flight feathers of the wings white. The tail should be of a purplish blue, each feather ending with an oval-shaped white spot, which forms when the tail is closed a white

bar across it. The more perfect this particular feature is, the more the bird is prized, and it is a feature and point of beauty found only among Oriental Frills. The Satinette is bred both plain and point headed and it rests with the fancier's taste to make the selection of his choice. The Brunettes are of same type as Satinettes, differing only in coloring, which is a delicate grey tint mixed with pencillings of a darker grey. Sometimes these pencillings take sulphur or orange tint, when they are known as Sulphurettes. Bluettes have light-blue shoulders with darker blue rump and tail with same spots as the Satinette. Across the wings are two light bars composed of the three colors of the Satinette, white shading into a pinkish brown and this edged with black; they are a beautiful variety, but by many would be taken for a white-barred, feather-legged, blue-winged Turbit. The Silverette has wings of a light silver-grey color with darker grey tails and the white spots. They also have the light tri-colored wing bars of the Bluette. The Blondinette is said to have been made by crossing a Silver Owl with a Satinette and then again with the Satinette, then by careful selections and judicious crossing of their progeny all the beautiful variations of color have been produced. The Turbiteens are found both with smooth and crested heads, and are distinguished from Turbits by being feather-legged and by having on the forehead between the eyes an oval spot of color and under the eyes along the jowls an oval spot of same color; this must be of similar color to the wings. The eyes of the Satinettes and its kindred varieties, also those of the Turbiteens, are dark or bull-eyed. In the Blondinettes they are orange-red. Allied to the Oriental Frills are two other varieties known as Capuchins and Damascenes, but as little is known of them in America I shall not attempt to describe them.

THE ANTWERP OR HOMER

As its name indicates, the origin of this pigeon was Belgium and their progenitors the native pigeons of the country who make their home in church steeples and other lofty, unoccupied towers. These were crossed with the Cumulet, a species of Tumbler noted for its flying qualities, again with the Dragoon and yet again with the Smerle, a variety of the Owl pigeon, very intelligent and with excellent homing qualities. These three crosses have given us the bird we know to-day as the Antwerp or Homing pigeon, one of the most interesting and practical of the pigeon family, and more generally admired and bred than any other of the race. Strong, hardy,

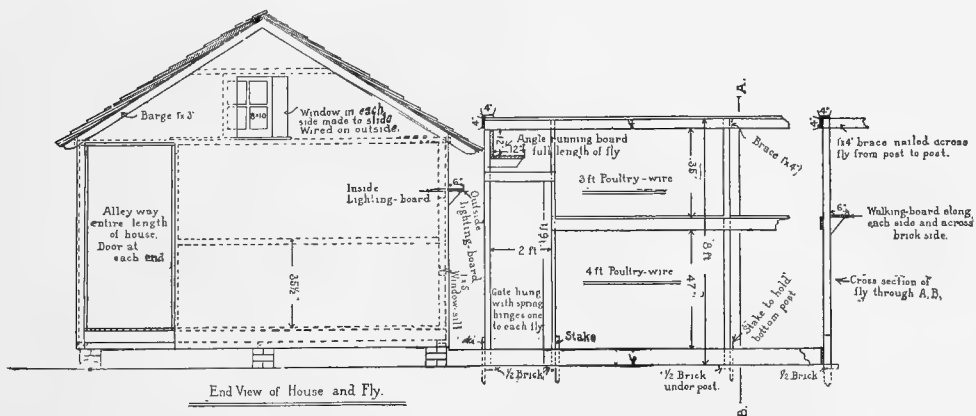
brave and intelligent, with a fondness for its home unequalled and powers of endurance that are marvelous, no wonder that it is so much admired and so carefully tended. While in the main it closely resembles the pigeons of the street, a little closer examination will show a more upright carriage, a broader skull and a brighter, more alert eye. Place the two together and the difference in quality is quickly discernible, so that a man of experience, purchasing a promiscuous lot of birds, can soon select the Homers from the mass. They are found in all the solid colors peculiar to common pigeons, but while color has been proved to have no influence on flying qualities, fanciers, as a rule, select for breeding all the darker colors, discarding the white and parti-colored; they undoubtedly fly quite as well, but they are more conspicuous marks for hawks and other birds of prey, one of the great evils Homers have to contend with. This homing instinct is more strongly developed in some than in others, for while some will fly to their home when liberated 500 miles away, others, although having the same training, will lose their way and never be heard of again. It must not be supposed that an unpractised bird would find its way home without experience. To teach them to accomplish such feats a long system of training is carried on, by liberating them first ten miles from home, then twenty, again thirty, and so up by longer intervals to 500 miles. While instinct, intelligence and a strong love of home has much to do with this ability to find their home from greater distances, their remarkable power of vision has much to do with their finding their way over the route they are obliged to travel. Flying as they do at a great altitude, they can see below them the rivers, lakes, towns, cities and prominent objects that mark their way, and having become familiar with these while training, they have little difficulty in finding their way to their home. The rate at which Homers fly varies according to the weather conditions and the condition of the bird. While forty to forty-five miles an hour is about the average rate, instances are related where birds have traveled at the rate of a mile a minute. According to a modern French writer, "pigeons never make as good time over the sea as over the land, and in fact rather seemed to dread water, either because it feels lost on account of the absence of marks on its surface, or because the saline exhalations have an unfavorable influence on its nervous organism, or finally because it is afraid of not being able to stop in case of accident or of finding food during a long journey." Pigeons released at sea make at once for the

nearest land, but should they be so far at sea that no land is visible, like the proverbial bird of Noah, they return to the ship, "because they find no resting place for the sole of their foot." Distinct from the Homer, or flying Antwerp, is another variety known as the Short-faced or Show Antwerp. This variety no doubt sprang from the same source as the Homing variety, but contain properties of the Owl cross showing more prominently, have been encouraged, until we have the correct type of an exhibition Antwerp. As bred to-day they are much larger than the flying variety, having a large skull development, very short, stout beak, with well-developed beak wattle and a high forehead to such an extent that the outline from the back of the head to the end of the beak forms a segment of a perfect circle.

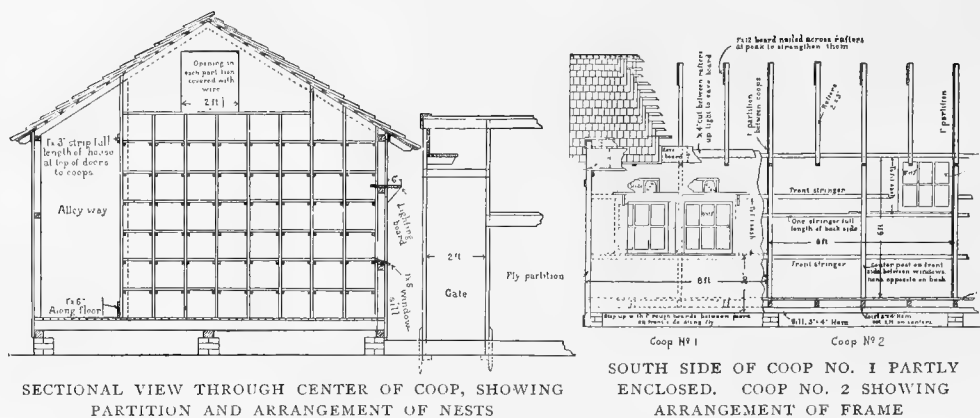
Besides the varieties already mentioned, there are the Toy pigeons, whose distinguishing characteristics are their beautiful plumage and accurate feather markings. Lack of space prevents a description of the sixteen varieties of Toy pigeons. They are the Swallow, the Nun, the Magpie, the Helmet, the Spot, the Archangle Breaster, or White Arch-angle, the Suabian, the Shield, the Litz, or Shield Trumpeter, the Crescent, or Swiss, the Ice pigeon, the Starling, the Lahore, the Tumbler, and the Fireback.

A PRACTICAL HOUSE

The type of pigeon-house I have evolved as a result of the experience described in the April, 1904, number of *Country Life in America* is twelve by forty feet, and costs, made of the best material, with a good shingle



END VIEW OF PIGEON-HOUSE AND "FLY" WHERE THE BIRDS MAY EXERCISE

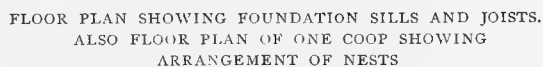


roof and two coats of paint, two hundred and fifty dollars. This price includes the attached fly. Much of this expense can be cut down, if the owner can do all or part of the work of construction.

Dry, warm and comfortable quarters must be secured for the birds, or there will be no success. The house should occupy a well-drained, level site on porous soil, and should face the south. My houses rest on eighteen brick piers. These should be not less than twelve inches high. The front, center and back sills are three by four inch hemlock, resting on the three-inch face, and the joists over them are two by four inches, set two feet apart in the center. The flooring is the best quality of Carolina or Florida pine, tongued and grooved, nailed directly to the joists. The sides and ends are boarded with first quality South Carolina pine stuff, six inches wide, tongued, grooved, beaded, and placed vertically.

A small sliding window is in each gable, two larger ones on the north side, and two each in the coops on the south side. There are five coops or pens in the house. These are of equal size, divided by four partitions of inch stuff, running from floor to roof and made solid, except an opening, corresponding in size and location to the gable windows. These openings in the partition are covered with poultry netting, as are all the windows on the outside. An entry-way, three feet wide, runs the whole length of the house on the north side. Wire-netting doors, hung with spring hinges, are at each end of the entry, and, outside of them, are doors made of siding boards. Access to the pens from the entry is furnished by a wire-netting door on spring hinges, in the center of the side of each pen. It is best to use spring hinges for all doors, as they are self-closing and birds cannot escape.

The drawing on the previous page shows two kinds of coops. The first has two windows, made to slide. All windows are covered with wire on the outside. The house



can be built with the number of coops desired. Studs, stringers, plate and rafters are two by three inch hemlock; sills, three by four inch hemlock.

There are two windows in a forty-foot house of five coops, or one window to about every two coops.

I do not claim that this is the only kind of a squab-house in the world, but I do believe it is thoroughly efficient, durable and cheap.

Make the floor about eight feet square, twelve inches from the ground, four feet high in the back and six feet high in the front, the roof to pitch one way. The roof can be made of rough boards, covered with felt roofing paper or shingles. The most important point in the roof should be perfect tightness. It has one eight-light window with eight-by-ten panes in front, about eighteen inches from the floor. The door should be placed on the side, near the front of the coop. Put four rows of nests in the back, and five rows on each side. This will give fifty nests. There should be two exit holes, with a six-inch lighting board inside and outside of the house, as in illustration. Make the fly eight feet in width, fourteen feet in length and eight feet high; the lighting boards to be arranged similar to illustration. Such a house will accommodate twenty-five pairs of birds very comfortably, and will cost twenty dollars.

Make the floor of a house for forty pairs ten by twelve feet, about one foot from the ground, five feet high at back and seven feet in front, the roof to be built of the same material as the twenty-dollar house. Arrange the door on the side, near the front. In this house two sashes with nine-light windows eight by ten, should be used, about eighteen inches from the floor. Put a board, twelve inches wide across the inside, just under the window. This gives the birds an opportunity to enjoy a sun-bath, which is necessary for their health. Put five rows of nests in the back, and as many on each side as the house will accommodate. This will give about eighty nests. Make the nests in both of these cheap houses ten inches square.

SUCCESSFUL SQUAB-RAISING *

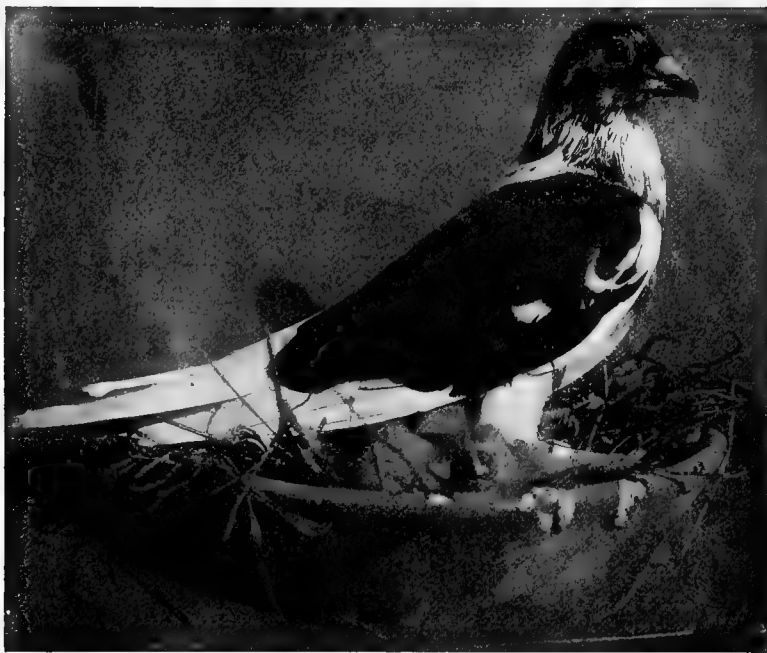
Behind my house, in a New Jersey town, is a half-acre lot where I have three large and two small houses in which I keep pigeons and raise squabs. In 1898 I did not have a bird, but I invested fifty dollars in purchasing twenty-five pairs of extra-choice Homing pigeons, and in remodeling a poultry house for their accommodation. With this initial expenditure I determined to raise squabs for the market. I had kept pigeons for pleasure for five years, previously, and felt that I knew a little about them. In these six years I have not invested another dollar excepting those which the birds have earned, and my present establishment of five houses and fifteen hundred pigeons, which has cost me \$2,000, is all paid for. In addition, for the last three years I have paid out from five to seven dollars each week in the wages of a helper, to dress the squabs and clean the houses, for my regular business would not permit me to attend to these duties myself.

When I first became interested in pigeons, I sought advice from every source, freely purchased all publications on the subject, and visited all squab breeders within reach. I am indebted to the latter for some helpful suggestions, but I found very little published information sufficiently explicit and detailed to assist a novice, and I learned most in the school of experience, chiefly at a heavy cost.

At one time I lost heavily from cholera, but I discovered some causes of the disease, and, after much experimenting, the proper remedies. At another time, unsound food caused sickness and death, but I learned to avoid all except pure and sound grains. Lice also threatened to overwhelm my birds, but now I can snap my fingers at these pests.

Rats, cats and even mice, in my early experience, caused much damage, but I no longer permit them on my premises. Setting the house on piers is an effectual barrier against rats; the self-closing doors prevent the entrance of cats, and I keep away mice by leaving no places in my houses behind which they can hide. The last-named pests cause many cold eggs and dead squabs by making their nests in the bottom of a pigeon's nest, where their squirming causes the birds to forsake the nest.

* This splendid account of successful squab-raising, as well as the part on practical houses, was written for *Country Life in America* by William E. Rice, of New Jersey, and is reproduced herewith with illustrations by courtesy of the editor of that magazine. The article has been revised somewhat by Mr. Long and adapted to the present chapter.—
EDITOR.



A MALE BLACK-SPLASHED HOMER WITH SQUABS ON NEST

The successful keeping of pigeons requires a house that is suitable for their shelter, and convenient in the daily care of the birds. My first houses were built directly on the ground, but a disastrous experience with rats taught me to set the house on piers and put a good floor in it. My present houses are all five-roomed, built according to a plan that I have worked out, and which I prefer to the unit plan, because it is less expensive and much less time is required in the daily task of watering and feeding.

The consensus of opinion of all experienced squab-breeders stamps the Homer as the best pigeon for this purpose. The variety is strong and vigorous; a hearty feeder and good worker; bright-eyed, alert and active; stocky, symmetrical and with the full breast, which counts so much in squabs. It is also prolific, and the squabs are full-feathered and fit for market in four weeks. The colors vary from pure white, black and red to all shades and mixtures.

My own flock of fifteen hundred birds is full-blooded, nearly all being Homers, and the balance Dragoons. When it is impossible to secure sufficient Homers for a flock, a very good cross may be had by mating a

full-blooded Dragoon with a full-blooded Homer and mating the progeny with full-blooded Homers again. This gives a bird three-quarters Homer, to one-quarter Dragoon blood, and it is nearly as good as the Homer. The full-blooded Dragoon requires five weeks to rear a squab fit for market, against four weeks for the Homer.

I was very fortunate in my first twenty-five pairs of birds. These were Homers, full-blooded, with established records for flying, having taken first honors in several contests. They were splendid birds, hardy and vigorous. I got them at a bargain rate, and they were undoubtedly the beginning of my success, for they not only averaged seven and one-half pairs of squabs a year, but stamped their vitality on the birds I selected from their young.

As my profits increased, I purchased straight Homer stock, picking from the best near-by breeders, as well as from those of established reputation at a distance; my object being to get none except strictly first-class



A PAIR OF SQUABS READY FOR MARKET

Homing pigeons require only four weeks in which to rear squabs fit for the market

birds of good blood and excellent health. By drawing from different sources, I secured strains of good stock, not akin. In addition to my purchases, I selected from my own pens the best and most prolific breeders, and mated these with the stock purchased. Now I have seven hundred and fifty pairs of as good, choice and healthy Homers as one can find.

I always put a lot of new birds in a clean coop by themselves, give a generous supply of feed and water, and have plenty of nesting materials in the coop. If they have come from a distance I put a good poultry powder in their feed for the first meal, and let them alone for a few days. If they are strong, healthy birds, they ought soon to begin to carry materials and build nests. When nest-building is fully under way, I transfer each mated pair to permanent breeding quarters.

Young birds selected from my own stock I treat in the same way. I am never in a hurry to put young pairs in their permanent breeding quarters, but wait until they are well established, for sometimes a match is declared off by mutual consent, and another courtship pursued. For catching the birds, I use a net similar to a crab-net, but with bows about three feet across, and a handle a yard long. I don't run after nor chase the birds, as I used to do, having acquired more sense.

When I find a pair of birds mated, I tell my assistant which bird to keep his eye upon, and not lose sight of for a single instant. At the same time, I note the other bird, and, net in hand, go to the center of the fly. When my bird flies past me, I take it in the net by making a quick pass in the direction in which it is flying. A sudden turn of the wrist brings the bag of the net against the bows, so that the bird cannot escape. I pass the caught bird to my assistant, who points out the other one, and it is soon caught. I never try to catch a bird as it flies toward me, for, by a sudden swerve, it may strike some portion of the net and bruise its head or wing. A little practice quickly makes one expert in catching with the net.

I "band" all purchases, as well as those I raise, and keep a simple record, giving the band number, sex, color and marking of the bird, and from whom purchased, unless raised. If not banded when bought, I band those purchased when transferring them to the breeding-quarters. The birds I raise, however, are banded when young squabs, before leaving the nest. The sex can then be determined, for the larger is almost always the male bird.

By means of banding I am able, when any bird dies, to find its mate and remove it from the breeding-quarters until remated.

A further record, to show the working of each pair of birds, I would recommend. I would number each house and each nest thus: House number one, nests one to one hundred and twenty, and let the record show the number of squabs marketed from each nest. I have not, personally, had time to do this in my own pens because my other business prevents it, but I know the percentage of squabs would be raised by doing it. The record would show at a glance the non-producers, which could be weeded



A GOOD KIND OF "FLY"
The birds have ample space and sunlight

out after a fair trial, and this scheme would also cut off some of the weekly rations.

The weekly expense of feeding my flock of fifteen hundred pigeons during the month of December, 1903, was eighteen dollars and thirty cents for the following: Three hundred pounds of cracked corn; three bushels each of wheat, peas and Kaffir corn; one and one-half bushels of millet; one bushel of hemp, and half a bushel of cracked rice. The rice I do not feed regularly. Feed is much higher than it was that year.

Of the seven hundred and fifty pairs I kept in 1903, five hundred pairs only were mature birds, producing squabs; the remaining two hundred and fifty pairs were young birds, selected from my best stock to increase my number. The mature birds cleared me one dollar and twenty-five cents per pair, with the handicap of feeding and caring for the two



A GROUP OF HOMING PIGEONS
The best for squab-raising. The white bird is a Dragoon

hundred and fifty pairs of youngsters, which will not come into profit for a few months.

Pigeon-keeping for squabs may fitly be termed a twentieth-century industry, for only during the last five years has it, by rapid development, attained to the dignity of a special business. Previously, a few pigeons were kept on the sides of barns, in lofts and similar places; but, lately, houses have been specially designed and built for the sole purpose of squab-raising. Many breeders have a thousand pairs of birds and not a few double that quantity.

The business will surely increase still more during the first decade of this century, for several reasons. Firstly, game-birds are becoming scarcer each year. Secondly, no bird or fowl has yet been discovered which furnishes so acceptable a substitute for game as the squab of pigeons. Its rapidity of growth is remarkable—in six weeks after the eggs (two in number) are laid, the squab is full-sized, and fit for the table. Thirdly, the price of squabs has been strongly maintained during the last five years, notwithstanding the marvelous increase in the business. Fourthly, the

business furnishes a way by which either men or women (for many of the latter have successfully taken up squab-raising) can embark in an enterprise which does not call for severe bodily exertion and which, if intelligently managed, will yield good dividends.

Watering and feeding are attended to punctually twice a day by myself, as my place of business is only five minutes' walk from my pigeons. For drinking troughs, I use glazed earthen fountains of two gallons capacity—one in each pen. Every morning I make the round of my houses, collect the fountains, and take them to the hydrant, where they are thoroughly scrubbed, rinsed, refilled with pure, clean water, and then taken back to the coops. After the fountains are all in place, I proceed to feed the birds. The barrels in the feed-room are filled weekly with sifted cracked corn, red wheat, Canada peas, Kaffir corn, German millet, hemp, and cracked rice. Filling a pail with assorted grains, I visit each house in turn, feeding first the farthest pen in the house, and the others in order. This method does not disturb the birds. As I pass out of the house, I give a pen of fifty pairs of birds three quarts at each feeding. When there are many squabs, at least a pint extra is required for their needs.



SECTION OF BREEDING HOUSE, SHOWING EGGS, SQUABS OF DIFFERENT AGES,
AND BIRD ON NEST

I do not believe in keeping a large supply before the birds all the time, as it is liable to become foul. I prefer to supply a little more or less, as the

birds eat up clean, or leave some in the feeding trough.



AFTER THE WEEKLY CLEANING
A most important duty

The daily watering and feeding I attend to with the most precise regularity; in the summer at half past six, and an hour later in the winter. I always fill and place the fountains first, and, after feeding, lock the doors of the houses and put the key in my pocket. Under no circumstances do I allow the birds to be disturbed after beginning to feed. I do this for two reasons: first, the young have to be fed, and the old birds

must not be disturbed at this duty or irregular feeding will ensue; secondly, if anyone passes along the entry while the birds are busily feeding, the whole flock flies up and tries to escape through the exit holes. Bruised wings are a probable result, and a bird with a bruised wing may as well be dispatched at once.

On Thursdays, after watering and before feeding, I go through all the houses with my assistant, carefully selecting the squabs which are fully feathered. These are fit for selling, if from good stock, when four weeks old, and should weigh eight pounds per dozen. These birds are put in hampers, taken to the picking room, and prepared for market.



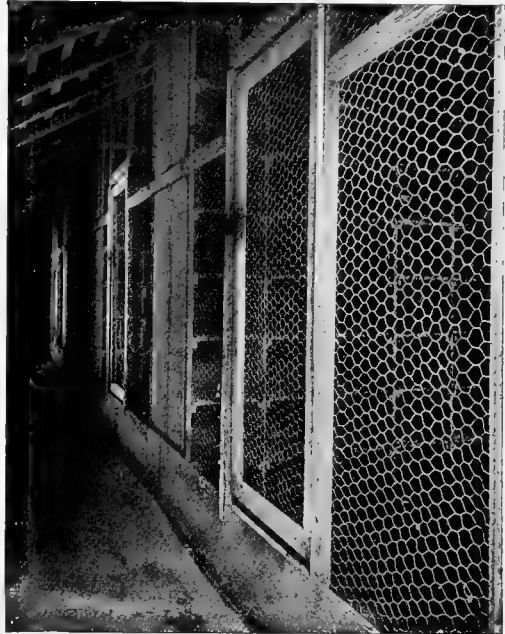
THE PROPER WAY TO CATCH A PIGEON

birds eat up clean, or leave some in the feeding trough.

On Friday and Saturday every week, I have the houses thoroughly cleaned; all the old nests taken out; the floors scraped and swept; lime, strongly scented with crude carbolic acid, scattered at the edges and corners of the nests and in all damp places; each floor re-sanded with a bucketful of clean sand; tobacco stems and short hay placed in each coop. Then all is ready for another week.

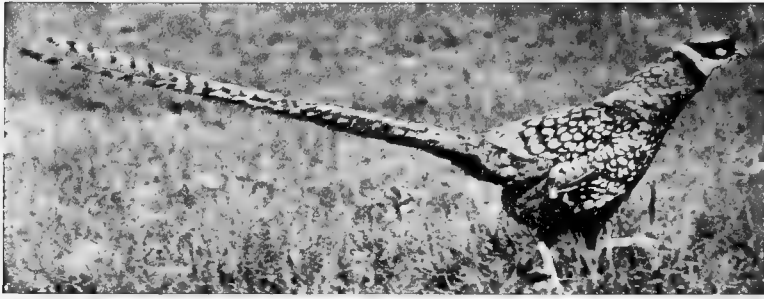
Aside from the directions already given, it is as difficult to instruct a novice how to select birds as to tell him how to pick out a good horse. The difference between Homers, Dragoons, Duchesse, and common birds is easily learned, and a little experience will tell one if a bird is in good health. How to decide in a given lot of Homer, or other variety, which particular birds will make the best breeders is not so easy, as much depends on the pedigree or past record of the birds. Homers are so full breasted and erect, that if a specimen be deficient in these points, or lack symmetry, he should be rejected.

Of course lameness of either wing or leg should be considered a fatal blemish. If the eye lacks lustre, or shows indication of canker, the bird should not be permitted in the coop. The mouth should be closely inspected for cankerous indications, and the specimen rejected if such exist. A hawk-billed bird should never be selected, as such a bill is a hindrance in feeding. Short-bills, short legs, erect carriage, a stocky, symmetrical build, well-moulded head and shoulders, with bright eyes are good points in Homers. If these be present, with a good pedigree, the purchaser may feel safe in his selection.



INTERIOR OF A BREEDING HOUSE

Five pens in a forty-foot house. Each pen has a capacity of fifty pairs of birds

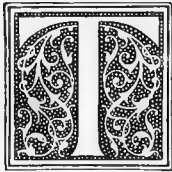


A REEVES COCK

Largest and finest of the true pheasants. Tail feathers often five feet long

PHEASANTS*

HOMER DAVENPORT, NEW JERSEY



THE first question strangers ask when they visit my farm is: "How many years have you been collecting these birds?" I reply, "About five."

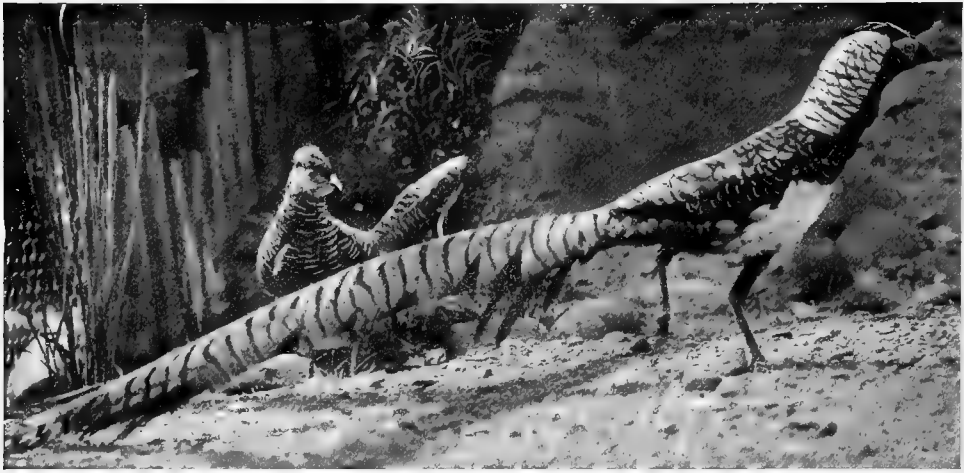
The easiest birds to get were the Golden, Silver, and Ring-necked pheasants, and the hardest were the *Gallus varius*, or Fork-tailed Jungle-fowl, *Gallus sonnerati*, or Gray Jungle-fowl, and perhaps the great Argus pheasant. I have to-day thirty-eight varieties of the pheasant family, not including the hybrids, the Golden and Amherst cross, or the English Ring-necked, which is a cross between the China Ring-necked and the common old English Black-necked pheasant.

Of all pheasants, the great Argus is the rarest and most peculiar in its habits. In the wild state they inhabit the dense forests of Sumatra, the Javan Peninsula, and are also found in similar localities in Borneo. The big birds are large and tender, and rarely take to wing. There is no record of one ever having been shot. So shy are they that only a modern rifle could reach one, even if a man could be found cruel enough to pull the trigger. They are, however, trapped by the natives for their wonderful

*This chapter on pheasants, by Homer Davenport, is adapted for this book from an article that appeared in *Country Life in America*. It is reproduced herewith, with illustrations, by permission. Mr. Davenport's collection of pheasants exceeds that of the largest zoölogical gardens in the world by almost a third. He has at present, December, 1904, more than thirty-eight different varieties. Fanciers the world over owe him a debt of gratitude for bringing together and, in many cases, preserving varieties that would possibly have become extinct had it not been for his keen foresight and enthusiasm. The illustrations in this chapter are taken from photographs, by Mr. A. Radcliffe Dugmore, of Mr. Davenport's fowls.—EDITOR.

wings, to which nature produces no equal in feathers. The male bird, when fully grown, is about seven feet in length. He shows no beauty until his wings are spread. He lives the life of a modern bachelor. He fans a spot on the level earth with his wings, some ten or twelve feet square, near his bachelor apartments. Here he comes frequently, except when moulting, and displays his enormous wings, like a butterfly or a skirt-dancer, by erecting them out and over past his head, where the peculiar argus eyes are revealed in a diagonal position, at the slant when they show to best advantage. His marriage is a contract affair, and shortly after the courtship the hen leaves him alone, while she strays away and rears her young. All that the natives of Borneo know of his habits is that he barks like a dog, and keeps out of their sight. If something wakes them in summer nights by whistling loud and coarsely, they think it is a god. I have spent more time studying my Argus pheasant than any other single variety. He fools the dogs, and they answer his bark. When he displays his wings, he carefully hides his head underneath the right one, and sometimes extends or peeks out between the third and fourth flight feathers.

Besides his habit of gathering wing feathers which he drops in the autumn, is his peculiar custom of uttering a calliope-like whistle during the quieter hours of the night. Last summer I was awakened at two in the morning by this loud, harsh whistle. It startled me so much that I forgot to count the small notes. The bird seems to climb a scale, and at the top he inverts the notes and descends until he reaches the bottom one, which is so harsh and shrill that, on hearing it at two in the morning, you are apt to have goose-flesh on the calves of your legs. The next night, at the first note I awoke, perfectly calm and in possession of my wits. I counted, in all, twenty-two notes, eleven up and eleven down the scale. The bird, at the time, was roosting nearly a quarter of a mile away, so the power of this whistle can be imagined. I never heard such echoes as came from the mountain near the valley. I do not think I missed the sound a night for most of the summer. It would be fatal to leave this marvelous pheasant one hour out of a warm house on a winter night. His soft, long feathers offer no resistance to the wind, and he would die from pneumonia within twenty-four hours. They are the only members of the pheasant family in which the male is not armed with spurs, but considering his delicate-winged plumage one can readily see why the Creator has neglected his fighting utensils.



LADY AMHERST PHEASANTS OFTEN HYBRIDIZED WITH THE GOLDEN
These specimens are of the purest type

Next in interest are the habits of the Vulturine Guinea-fowl, perhaps the most beautiful bird inhabiting Africa. I have seen the male of my present flock take a feather in his bill from the ground, hold it high up and drop it, turn once around, and catch it in his bill before it reaches the ground. He seems to do this for play. On other occasions I have seen him circle around the feet of a child or a dog, finally lying down flat across them, as if to be petted. He appears to be fond of human company. The cry has a most beautiful rolling sound, like that of a kettle-drum. I have had male birds with as many as five spurs on each leg. They are considered by many to be the finest of all the pheasant group, because of their beauty and oddity. When the first whites went into Matabele Land, these strange guinea-hens followed the procession of the king of the native tribe who had come to welcome the explorers. These were the first seen and recorded by white men. They have never bred as yet in this country, though I believe they have done so in some parts of southern France.

Of the group called guinea-hens there are eleven varieties, all from Africa, the birds commonly known as guinea-hens in this country having been brought here by the first settlers. The family, or group, of pheasants known as Tragopans, of which there are five varieties, are the most beautiful, and also the most peculiar. They will stand in front of you, and change from the bird family to some sort of a lizard or horned-toed species. In February, 1902, on a snow-bank in their aviary, I saw Temmick's

Tragopan begin to jerk his head quickly four or five times. Two green, fleshy horns, about two inches in length, and smaller than a little finger, rose out of the feathers on each side of the top of his head. At the same time a bib or apron of skin four or five inches long, and nearly the same width, dropped from under his throat. This was bright blue, with red, diamond-shaped bars across it. Then, with his short, square-cut tail spreading on the ground, and his wings down like a turkey, he puffed like a pile-driving engine for about a minute. The horns then diminished and disappeared, the bib drew up under his throat, and he resumed his position as a bird, unconscious that he had been anything else. From a scientific point of view, it is perhaps the most wonderful change any bird can make. All the Tragopans display nearly the same actions, the horns and apron in each breed being of different-colored skins. They become very tame, and breed readily in confinement; and though cold-weather birds, are very tender if not handled carefully in the winter. They inhabit the lower ranges of the Himalaya Mountains, and favor evergreen trees.

The Impeyan, or Monaul, is very turkey-like when strutting, except that he will jump six or eight feet at a time, and sometimes do nearly a cartwheel. His plumage is perhaps the most brilliant and gaudy of all the pheasant family. The metallic green, purple, and old gold that are displayed upon his neck are something indescribable in the sunlight. He is built on the plan of a battleship, and is far from graceful. When the



THE COMMON GOLDEN PHEASANT

One of the most beautiful. It is easily secured at a low price. Hill country of China

blizzards are at their height you find him frolicking in the snow. They become very tame in aviaries, but have not as yet been bred in this country. They inhabit the extreme peaks of the Himalaya Mountains, the hens only coming below the snow-line to nest and rear their young.

The pheasants of the Kaleege family, including the Silver, Swinhoe, Lineated, Melanotus and Horsfalt, all have a fluttering of the wings, as do the Firebacks. The Siamese Fireback deserves mention as one of the most beautiful pheasants, and he will become so tame that he will run about the lawns and farm-yards. His only drawback is that he is so pugnacious he will attack women and children.

Perhaps the best and finest of the true pheasants are the Reeves, inhabiting the mountains of China, their tail-feathers frequently reaching the enormous length of six feet. They are hardy, standing any winter weather and any degree of heat, but never become quite as tame as some of the others. The male bird displays his plumage by swelling up and drawing in his head as if ready to burst, and then jumping stiff-legged in a big circle around his hen, his long tail held almost perpendicular. The Ho-ki pheasant inhabits Thibet, and, owing to his rather tame, natural disposition, will probably be the first of the pheasants now in existence to become extinct, because he falls an easy prey even to bad marksmen. The plumage of the male and the female is exactly the same, the only distinguishing trait of the male being the spurs on his legs. Of the pheasants in captivity the Ho-ki becomes the tamest. They are hard to keep out of the house and will actually come into a lady's lap and peck at her rings.

The Fork-tailed Jungle-fowl and the Gray Jungle-fowl are perhaps the wildest. There is much to be admired in these two species. Their beauty and gamey appearance make them a most interesting bird. It is impossible, owing to their wild nature, to handle them to any extent. They never become tame, and grow restless, however large their aviaries may be. The Fork-tailed Jungle-fowl inhabits the dense jungles of Java. The male bird differs strikingly from all other Jungle-fowl in having a comb without notches, and but one single pendent wattle, instead of two; and through this comb and wattle run the colors of the rainbow. His hackle feathers, instead of being pointed, like all other members of the family, are round-cornered, broad, and dark-green. The Gray Jungle-fowl, coming from the warmer regions of India, has his neck hackle covered with small, wax-like spots, entirely different from any other bird known. The crows of the

two varieties are more of a scream than a crow, and they are entirely different from the Red Jungle-fowl, *Gallus bankivus*, whose notes are exactly like those of his descendants, the barn-yard poultry. I have succeeded, after two attempts, in rearing five hybrids, by crossing a Gray Jungle-fowl with a Red Jungle-fowl hen. They are very peculiar, the males having the gray of their father, and the pullets resembling their mother. Dr. Jerdan, in his travels in India, shot a jungle cock that he was certain was a hybrid



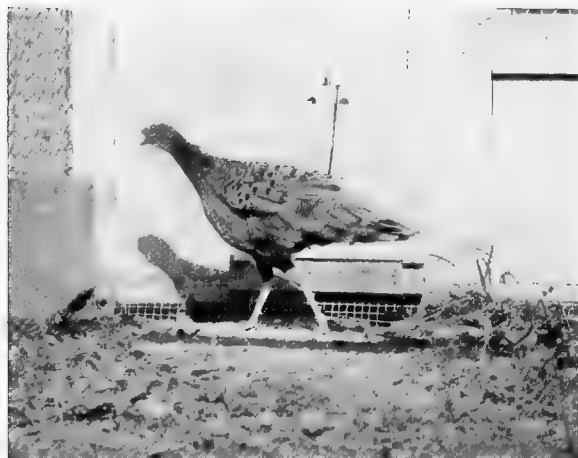
THE SO-CALLED "MONGOLIAN" PHEASANT, PROPERLY THE CHINA RING-NECK, OR TORQUATUS
The true Mongolian never reached this country alive. Eighteen *Torquatus* pheasants were turned loose in Oregon in 1884, and there are probably more now in Oregon than in China. This is the best species for naturalizing in American game preserves

between the two species just mentioned; but other scientists found the Red and the Gray occupying the same jungles without ever being able to find a hybrid.

Pheasants will in a few years be bred, by nearly everybody that keeps fancy poultry, just for fancy's sake; as the study of wild bird life, especially among such beautiful species, is rarely equaled, and it adds a peculiar attraction to the home. Varieties that are very expensive now will, in a short time, either become extinct or more plentiful. Pheasants, if given the same care that well-bred poultry receive, will do well in any state in the Union. They suffer from the same diseases that affect poul-

try. If kept on a damp, wet ground, one finds them ailing from rheumatism and the gape-worm.

I would recommend the beginner to get the Golden and Silver pheas-



THE PEACOCK PHEASANT

ants first, and add to his collection as his knowledge grows. Nearly all varieties are hardy when young, if given the right variety of feed and runs. Almost any small hen answers the purpose of a mother. Ring-necked pheasants can be bought for five dollars per pair; Golden for twenty-five, and others among the rarer species are more expensive, but they do not, as a rule, cost as much as fancy poultry.

Some people take pheasants of different kinds, mix them together, and the males of the various breeds fight and kill each other. Again, when the young are hatched, some one in charge tries to feed them on dry bran first, and whole corn next; thus the young die, and those who would like to keep pheasants say that they cannot be raised.

The main feature in breeding pheasants is to fix their aviaries as nearly like their wild haunts as possible, and then to tame the birds by careful treatment. Pheasants begin laying as early as the middle of March, and continue at irregular times until late in the summer.

HOUSING AND FEEDING

Selecting the ground and building the aviary for pheasants are of the greatest importance in securing the birds' health, which is the main object in captivity. Dry, sandy soil is better for pheasants of any kind than clay soil. Side hills or slopes are good, as they drain quickly after rain. If in laying out the aviary these points are borne in mind, they will greatly benefit the general result. It is a question whether or not the sand and gravel surface is better than grass. Old French breeders prefer the former

in their aviaries, saying that the grass gets soured and brings on disease, and this I am not prepared to deny. In the new aviaries that I am building the grass plot is being made small, in the center of the aviary, and on a mound, as thus it will be less trampled. If running water can be supplied, it would of course be beneficial, as through water, more than in any other way, disease is spread among the pheasant family. In feeding the old as well as the young, no more should be left than they will eat up clean. Most pheasants are fed to death. The rearing field for the young should be high and dry and rolling. After the Cochín Bantam hen that hatches the eggs is dusted with insect powder, she is taken to the field with the little pheasants, usually carried in a tin bucket by the game-breeder. The hen is put in a coop open on one side with up-and-down slats. A solid board pen is set up against the front of this coop, making a little yard, twelve inches high by two feet long, and the width of the coop. This is kept there for four days, and during this time the little pheasants wander out from under the hen into the yard and cannot stray away. They hear her call and learn, in that time, her methods. Beginning at a little after daybreak they are fed five times a day, on Spratt's Patent pheasant meal, with now and then a hard-boiled egg chopped up in it. After they are watered each time, the dish must be turned over so that no water is left in it to stagnate. After the fourth day, with most varieties of pheasants, the solid board run can be lifted away and the young allowed to wander out over the field. They always come, when called, to their foster mother's box, where they are fed. Hundreds can be kept in the same field in this way. Of course the English Golden and Silver are the



THE MONGOLIAN PHEASANT

easiest to rear, but the Reeves, Amhersts and varieties of the Kal-ge are strong and healthy under ordinary circumstances. Crows are worse enemies than hawks, and when many young pheasants are being reared a

man must be constantly on the watch with them. As the young grow older, Kaffir corn, hemp and millet can be added to their feed with slight variation. When they begin to roost out nights on the coop, it is time to catch them and bring them into the aviaries, which should be well kept, sweet and clean, with a supply of sand, shells, and gravel in each.

Different varieties need different care. The Impeyan cock, if not watched during the early spring, will kill his hen, because it was the custom in the wild state to separate after the breeding season, she leaving him to nest and rear her young. The male joined the party after the young were hatched. The Soemering also is a pugnacious bird, and will kill the hens if they cannot get away from him. The Lady Amherst and the Elliot are treacherous at times. One hen will turn upon another sometimes and kill her in short order. But with proper attention they can be reared and kept in fine condition and prove an interesting study and amusement. I have found that even pheasants from Borneo can stand our winters, if they are kept in a close house, absolutely without draughts, and they will go through a winter more safely without artificial heat. The Gray Jungle Fowl, if fed plenty of meat, winters in fine shape under similar conditions.

DESCRIPTION OF SPECIES *

The Tragopans.—There are five species of Tragopans—the Crimson (*Tragopan satyra*), Temminck (*T. temminckii*), Cabot (*T. caboti*), Black-headed (*T. melanocephalus*), and Blyth's (*T. blythi*)—all beautiful birds, and all easily secured, with the exception of the last named. In the display of his plumage the Tragopan is more interesting than any other of the pheasant family, because at certain times the male bird elevates a tiny pair of flesh-like horns on either side of his ears at the top of his head. This gives him a Satanic expression, bewildering and unparalleled in the bird family.

*All of the birds described below, except the Vulturine Guinea Fowl, belong to one family—the true pheasants, Plasianidæ. They have a definite relationship with one another, and have here been treated as distinct species and not varieties in the sense in which the term is generally applied to poultry. The only varieties mentioned here are the Black-Throated Golden Pheasant and the White Pheasant. It is customary to begin with the Tragopans and end with the peacocks. Under the classification usually accepted (Sharpe's Hand List of Birds, London, 1899), the genera are arranged in the following sequence: *Tragopan*, *Lophophorus*, *Lophura*, *Diardigallus*, *Crossoptilon*, *Gennæus*, *Catreus*, *Phasianus*, *Syrmaticus*, *Calophasis*, *Chrysolophus*, *Gallus*, *Polyplectron*, *Argusianus* and *Pavo*. The Guinea Fowls belong to a separate family, Numididæ, and follow the peacocks at the close of this chapter.—EDITOR.

The Tragopans inhabit the high ranges of Eastern and Central China. Tender in transportation, they are hardy after location, and breed readily in captivity. The cocks are short-tailed and covered with peculiar spots, a white spot in nearly every red feather, a black spot in most of the yellow feathers. The females become very tame. They are not beautiful, and it is hard to distinguish one species from another. They lay from fifteen to twenty-five large eggs, pointed in shape and speckled.

LOPHOPHORUS

The Impeyan Pheasant (Lophophorus impeyanus).—The Monaul or Impeyan Pheasant is one of the most gorgeous of birds. The



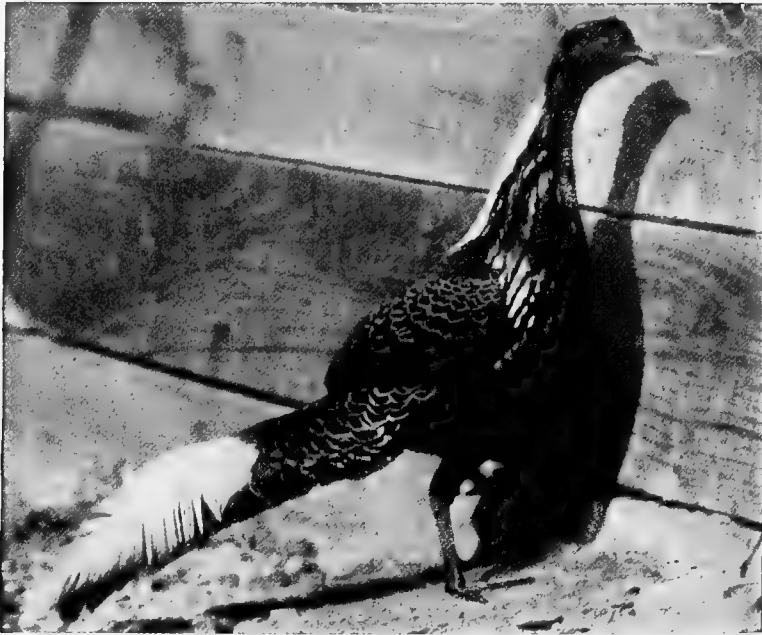
THE ARGUS

Most beautiful in its wing plumage of all pheasants. The male is seen at the right with wings closed

wonderful metallic brilliancy of the cock's plumage, gleaming in purple and gold, baffles description. They inhabit the high ranges of the Himalayas, a cold climate, and breed freely in confinement. They are tough and hardy, and dig with their strong bills for roots and worms. They become tame and frequently run with the poultry. They are on the whole about the most satisfactory to keep, because of their unsurpassed beauty, combined with a rugged nature.

LOPHURA

Vieillot's Fireback (Lophura rufa).—The most beautiful of Firebacks. Its local color is blue with peculiar white and copper back. It inhabits Borneo, Siam, and the Malay Peninsula.



SWINHOE'S PHEASANT FROM FORMOSA

His color is like blue velvet, with bronze shoulders and white as seen in the picture

Bornean Fireback (Lophura nobilis).—This strange bird comes from Borneo, and it is the largest of the family of Fireback Pheasants. Few pairs have ever been brought to Europe, though they have bred there in aviaries. They are hardy and get quite tame. They are very beautiful, and I am certain they will become great favorites in the warmer districts of this continent.

DIARDIGALLUS

Siamese Fireback (Diardigallus diardi).—This pheasant is almost the favorite, on account of his grace, beauty, and his inclination to run the whole ranch. They become too tame, and are always strutting about one's feet. They inhabit Siam, and have to be shut in on cold days, but in the spring they are allowed to roam about. They breed readily in confinement. In Horn's book on pheasants he advises people not to attempt to keep them, as they are wild and ill adapted to an aviary. In the fall of 1904 I had three birds, one cock and two hens, running at large around the lawn and barnyard, where five dogs and other pheasants run with them.

CROSSOPTILON

Manchurian or Eared Pheasant (Crossoptilon mantchuricum).—This pheasant, a native of Northern China and Manchuria, has not gorgeous plumage, although a fine bird. They run about my home with full wings, and never attempt to leave. They roost out all winter and are as hardy as Cochin chickens. They breed well in confinement and are very interesting. The sexes are alike in plumage.

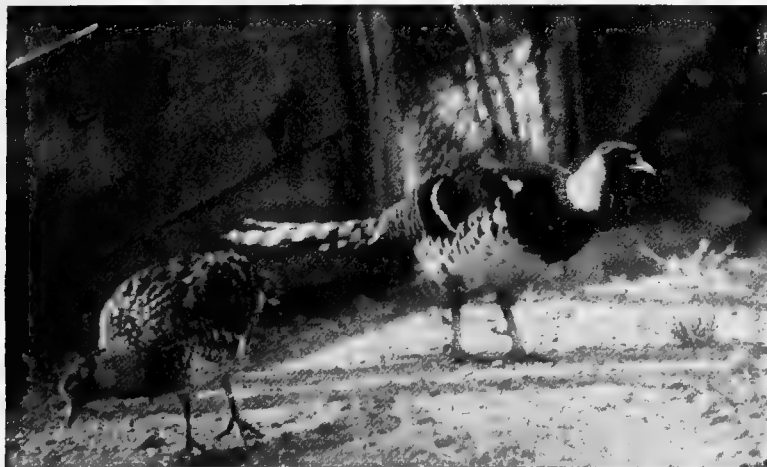
GENNÆUS

Melanotus, or Black-Backed Kaleege Pheasant (Gennæus melanonotus).—This pheasant inhabits Sikhim, Nepal. They are hardy and interesting, and possess a certain amount of beauty. All of this family are very pugnacious.

Anderson's Kaleege (Gennæus andersoni).—This native of the Himalayas is as beautiful as any of the Kaleege family and as hardy. In color it is between the silver and lineated, and it is especially adapted for show.

Lineated Pheasant (Gennæus lineatus).—The two species of pheasant, forming the Kaleege group, of which the present is one, are very closely allied to each other. This bird inhabits Burmese countries. It is very hardy and a beautiful, graceful pheasant, breeding readily in confinement.

Silver Pheasant (Gennæus nycthemerus).—This beautiful species, among the best known of the members of this family, is a native of China.



ELLIOT'S PHEASANT, A NATIVE OF TIBET

They are very interesting and hardy, and become tame enough to run with farm poultry.

Swinhoe's Pheasant (*Gennæus swinhoii*).—This beautiful bird inhabits Formosa. Its glossy feathers have the appearance of blue velvet. It is very hardy, stands any climate, and the mother will rear her own young.

CATREUS

Cheer Pheasant (*Catreus wallichii*).—This large pheasant inhabits the mountains of Asia. It is very hardy and loves roots, but seldom eats grass. It breeds in confinement, and, while not handsome, is interesting. The cock's color is blue gray; the hen's similar.

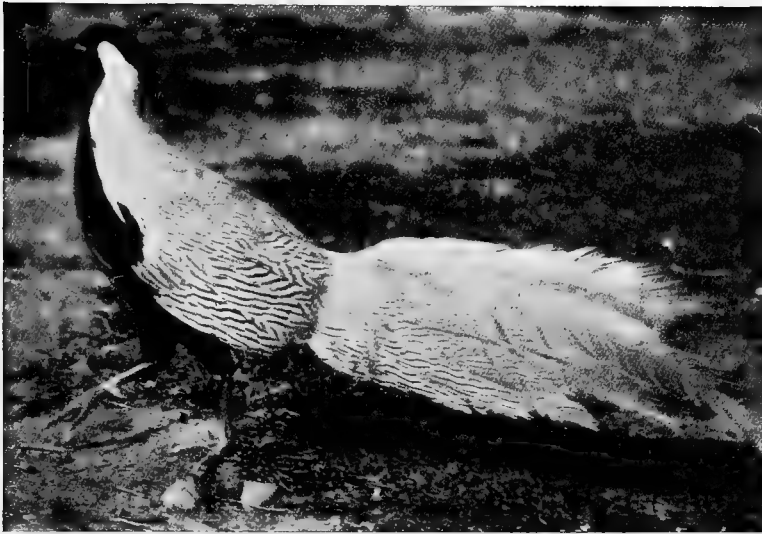
PHASIANUS

English Pheasant (*Phasianus colchicus*).—The Black-necked English Pheasant is almost extinct. It was originally found in Persia, and was, without doubt, the first pheasant introduced into England. Later the Ring-Neck pheasant, *Phasianus torquatus* was brought to England from China. These two were crossed and the well-known English Ring-Neck was produced. It is in reality a mongrel, but a very fine bird.

White Pheasant.—This bird is beautiful, though it is a sport thrown from the cross between the Torquatus and the English. They will breed true to color and add to the attractiveness of an aviary very much.



A SILVER PHEASANT HEN



MALE SILVER PHEASANT

A pugnacious species, but as easy to rear as the hardier chickens

Mongolian Pheasant (Phasianus mongolicus).—This native of Asia comes from the valley of Syr-Darya, and from as far east as Lake Saisan, in the valley of the Black Irtish. An unfortunate misunderstanding regarding this bird has arisen in the United States, where it has been confounded with the Ring-Neck or Torquatus, bred in great numbers in Oregon for sportsmen. There is little or no similarity between the two species, the Mongolian Pheasant being twice the size of the other, with a rich bronze copper color, instead of the yellow and pink of the Oregon bird.

In a recent interview with Mr. Carl Hagenbeck, he informed me that he had shot a hybrid between the Mongolian and the English Pheasant that weighed five and one-half pounds. The bird in question was less than a year old. Therefore it is evident that the Mongolian Pheasant is the best for crossing with the Torquatus and English. The results obtained suggest its introduction into the country game preserves of American gentlemen.

The cock's feathers have a beautiful purple sheen. He has light butts to his wings and a broad white band around his neck.

Ring-Neck (China Torquatus) Pheasant (Phasianus torquatus).—This handsome game bird, the common pheasant of China, is frequently miscalled the Mongolian Pheasant. They breed wild in Oregon, where they were

introduced in the early eighties. Having been protected by law for ten years, they are now very abundant and increasing rapidly. They are a splendid game bird and are now shot during October and November. Almost all the birds I have of this species were reared for me in Oregon. They are far ahead of the English Pheasant as a game bird, as they become much wilder and swifter on the wing. They are exceedingly hardy, and can be raised by any amateur.

Versicolor or Green Japanese Pheasant (Phasianus versicolor).—This beautiful bird inhabits nearly all of Japan. Owing to its value for the milliner, it is perhaps better known than any other variety, although the pure specimens are very rare in this country. It is hardy and breeds well.

POLYPLECTRON

Peacock Pheasant (Polyplectron chinquis).—This strange pheasant is one of the most peculiar, as well as one of the most fascinating. The hen lays but two eggs. The young are hardy and easy to rear. The bird inhabits the deep gullies of the southern Asiatic mountains. It has many admirers, who think it superior in beauty to any other pheasant. One of the peculiarities of this species, of which there are three different varieties, is that when the two young are hatched they stay under the spread tail of the father bird and never come in front of his legs. When the eggs are hatched by the domestic hen, the young pheasants stand behind her legs, where she kicks them about and scratches them.

ARGUSIANNUS

The Argus Pheasant (Argusianus argus).—Native of Malacca, Siam and Sumatra, frequenting the jungles. Undoubtedly one of the most magnificent of the pheasant family, it is so extremely shy in its habits that it is seldom shot, even by native hunters, though many are snared. It measures five feet in length, the tail being three feet eight inches. The prevailing color is ochreous red or brown, without brilliant relief. There is a pronounced harmony in the distribution of the tints, there being such a profusion of small spots—sometimes lighter and sometimes darker than the ground—that they assume, apparently at will, the tones of their environment. The broad, secondary feathers are covered in their entire length by a row of eye-like spots, imitating half globes, and nothing from the brush of nature is more artistic or more beautiful. It is from these spots that the Argus

takes its name. The naked skin of the face and neck is bright blue, contrasting well with the bronze hue of the plumage. The female possesses none of the male's characteristic markings of beauty and she is but twenty-six inches in length. Although the Argus is remarkably wild in its native state, it becomes unusually tame in captivity, returning to its aviary at night after enjoying full liberty during the day.

I have had the Argus in my aviaries for more than two years, and, though they have not as yet bred, I am satisfied that in the milder climates of the United States good results could be obtained. They have been



MELANOTUS PHEASANT, OR HILL PHEASANT OF ASIA

known to breed in European zoölogical gardens on rare occasions. The cock bird about midnight issues a loud, harsh, calliope-like note, eleven double notes up, and eleven double notes down the scale. It can be heard in still weather at the distance of a mile.

I have observed the Argus displaying his enormous wings for the delectation of the female. His introductory performance consists of rushing somewhat excitedly around the aviary, finally arriving in the center and spreading his argus-eyed wings like a huge butterfly, entirely hiding his head—a pose that greatly delights the female, because it displays to the best advantage the magnificence of her mate.

PEACOCKS

The Common Pea Fowl (Pavo cristatus).—Little need be said of these beautiful birds. They are found all over the world, breed readily in any climate, and are very tame.

Of the peacock family there are two “sports,” white and pied. Both have attained wide popularity owing to their delicate beauty. The white peacock has reached its highest state of cultivation in India. They breed readily and thrive in every climate. The Pied Pea Fowl is one of the most attractive of the family. They are rare in America, and add greatly to the value of any collection of birds.

The Japan or Black-Winged Pea Fowl (Pavo nigripennis).—The habitat of this species is unknown, but it was supposed by Dr. P. L. Sclater, who originally described the bird, to be Cochin China. It is among the really beautiful varieties of the species. The male bird is the darkest of all the peacocks, and, strangely enough, the female is the lightest, being almost all white. They are hardy, and can be bred in any climate, requiring little or no attention.

The Green Java Pea Fowl (Pavo muticus).—Native of Chittagong, in the eastern part of India, and occurring through Burma to Java. This is the most beautiful of all known birds, possessing in its majestic plumage every color of the rainbow, every tint and tone in the prismatic scale. Its neck feathers, less rich in hue than the blue of its rival, have a particularly beautiful effect, as if made of metal; and the almost equal beauty of the hen places her far above the dowdy mate of the common peacock. They are much larger than other species, breed readily in any climate, and are a handsome ornament to any country home. Most important, perhaps, is the fact that they do not utter that shrill, ear-splitting scream which makes the common peacock a rather unpopular bird.

GUINEA FOWLS (NUMIDIDÆ)

Vulturine Guinea Fowl (Acryllium vulturinum).—The most interesting member of the family is this beautiful Guinea Fowl from Eastern Africa. It becomes so tame that it feeds from the hand, and really acts the part of a clown in the barnyard. They have never been brought to this country in great numbers, but are desirable, owing to their peculiar

beauty, the rich blue evident in every feather. Delicate in cold, they are easily kept in warm weather. They have never bred yet in America, but, I believe, have done so in France. There are twenty or more species of Guinea Fowl, all from Africa, and they are usually grouped in five distinct genera. *Acryllium* contains only the present species.

Saemmering's Pheasant (*Phasianus saemmeringii*).—A native of Japan, this bird breeds well in aviaries. It is very hardy and will thrive in this country. The male is so pugnacious that he will sometimes fight to the death with others of his own race. It is necessary to take the precaution to clip one of his wings, while leaving those of the females complete. He will kill them if the aviary is not one in which they can perch out of his reach. The general color of the Soemmering cock is copper, and it is sometimes called the Copper Pheasant. The cocks are among the longest tailed, while the hen has the shortest tail of any of the pheasants.

SYRMATICUS

Reeves's Pheasant (*Syrmaticus reevesii*).—The largest of the true pheasant family, and one of the grandest, breeds well in this country. It inhabits the mountains of China, and is the swiftest of all on the wing. Many prefer this pheasant to any of the others. It is very hardy, and can endure any winter or any summer. The cocks are large, measuring sometimes as much as seven feet to the end of the tail. They are rich yellow and black in color.

CALOPHISIS

Elliot's Pheasant (*Calophasis ellioti*).—One of the finest and least troublesome of the pheasant family is Elliot's. The hen hatches and rears her own young. Being very hardy, and becoming reasonably tame, they are especially adapted to this country. They inhabit the mountains near Ningpo, China. The Elliot cock is as proud and beautiful as bird can be. His copper-colored shoulders glow in the sunlight. He is cross sometimes, but if his wings are pinioned and those of the females left long, and they have a stick to perch on out of his reach, he can do no harm.

CHRYSOLOPHUS

Golden Pheasant (*Chrysolophus pictus*).—These pheasants need no description. They are hardy, tame birds and seen in every zoölogical

garden. They inhabit the mountains of Western and Central China, and are the popular favorites of the pheasant family. They breed as easily as ducks, and are almost as easily reared. Red, yellow and old gold are the local colors of the cocks.

Black-Throated Golden Pheasant.—The habitat of this beautiful pheasant is not known. It varies slightly from the common species. The hens are darker and handsomer, and the chicks, when small, have white throats. They are as hardy as the other variety.

Lady Amherst Pheasant (Chrysolophus amherstiae).—This magnificent bird constitutes the second species of the genus *Chrysolophus*, and as a striking ornament for the aviary it cannot be surpassed, even by its relative, the Golden Pheasant. This species requires little room for its comfort, and breeds with success in any country. It inhabits China, bordering on Eastern Tibet.

JUNGLE FOWLS

Natives of Southeastern Asia, India, Sumatra, Java and Borneo. Four species are known, all bearing a striking resemblance to the common domestic fowl, rather over Bantam size. They possess the carriage of the pheasant, the tail being kept rather low. The cocks have single, small-sized combs and long, sharp spurs.

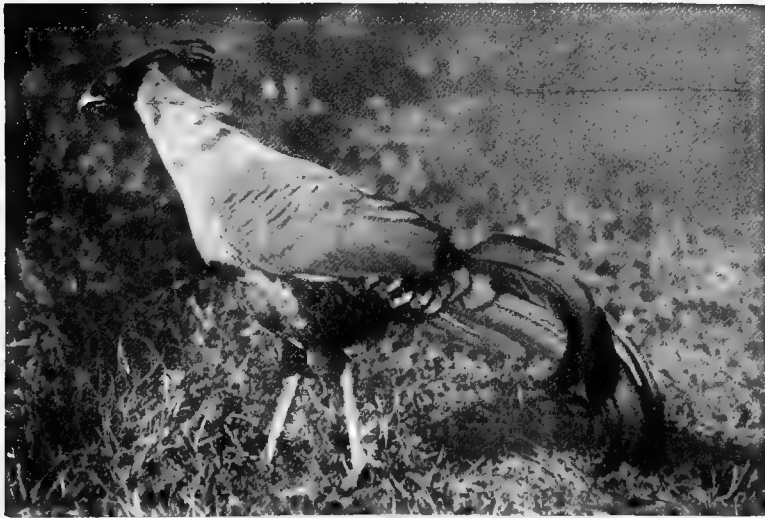
The Red Jungle Fowl (Gallus gallus).—This species, formerly called *Gallus bankiva*, so closely resembles the old Red-black Game of the English fighting type, that it is frequently mistaken for it. This justly gives rise to the claim that they are the direct ancestors of all our domestic breeds of fowls. They grow so tame as to come uninvited into the house. The hen lays nine eggs and rears her own young. They are very hardy, withstanding any climatic changes.

The Ceylon Jungle Fowl (Gallus lafayettii).—These are seldom met with in captivity, nor are they in any particular so beautiful as the Gray Jungle Fowl.

The Gray or Sonnerat's Jungle Fowl (Gallus sonnerati).—Although rather sombre in general tone, these birds possess a peculiar hackle feather tipped with a wax-like substance that greatly resembles burnished gold. They are less hardy than the Red Jungle Fowl, particularly in captivity. The Gray Jungle Fowl is one of the rarest of the pheasant family in captivity, and it is unusual to find one even in the great zoological

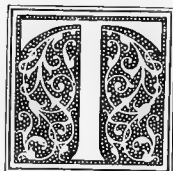
gardens of the world. It was two years before I succeeded in breeding them successfully.

The Green or Java Jungle Fowl (Gallus varius).—Most distinct of all the species. The cock's comb is plain edged, not serrated as in the others. His face is very naked, and instead of wattles he has a dewlap which expands and contracts like a turkey's, the face and dewlap changing color when the latter is contracted. Under this condition the bird actually blushes a bright red. The ruff, instead of being composed of hackles, is made up of scale-like feathers which extend to the upper part of the back. This plumage is a metallic purple and golden green. They are the rarest of all the Jungle Fowls in captivity.



THE SIAMESE FIREBACK
A beautiful bird that easily becomes tame

THE PEACOCK *



HERE are three varieties of peacock, the most common being *Pavo cristata*; secondly, the Javan *Pavo muticus*, while the third is the black-winged *Pavo nigripennis*, well described by Mr. Sclater. The following, taken from Mr. Nolan's book on "The Domestic Fowl," describes the ordinary well-known *Pavo cristata*: "They were first brought from the East Indies, where they are still found in vast flocks in a wild state. The head of the bird most familiar to us is adorned with a tuft of twenty-four feathers, whose shafts are entirely bare, tipped with eyes of green and gold (hence its name, *Pavo cristatus*); the head, throat, neck and breast are a deep blue, adorned with green and gold; the greater coverts and bastard wings are a reddish brown, as are also the quills, some of which are variegated with black and green; the belly and vent are black, with a greenish hue. The distinguishing characteristic of this singular bird is its train, which rises just above the tail, and, when erected, forms a fan of the most splendid hues. The two middle feathers are sometimes four feet and a half long, the others gradually diminishing on each side; the shafts white, and furnished from their origin nearly to the end with parted filaments of various colors, ending in a flat vane, which is decorated with what is called the eye; the real tail consists of short, stiff, brown feathers, which serve as a support to the train. When pleased, or in the sight of his females, the peacock erects his train, and displays the majesty of his beauty. All his movements are full of dignity, his head and neck bend nobly back, his pace is slow and solemn, and he frequently turns slowly and gracefully round, as if to catch the sunbeams in every direction, and produce new colors of inconceivable richness and beauty, accompanied with a hollow, murmuring sound, expressive of desire. The cry of the peacock at other times is often repeated, and very disagreeable. The plumes are shed every year, and while moulting the bird, as if humiliated, retires from view."

* The peacock is not a common fowl in this country, although it is found in most large parks and on many country estates. It is rarely kept on the farm, except for show.

—EDITOR.



PRIZE DARK DORKINGS.

The property of Mr. HERBERT REEVES.

The Javan, or Burmese, variety has even richer colors. It and the Black-winged are like the *Cristata* in being well known, and not having varied through domestication, even the White and Pied being found in a wild state. In Burmah the peacock is venerated, and in many places the wild birds are preserved from the attacks of sportsmen. But the peacock, its varieties, its haunts and habits, in the normal state, I leave to the numerous books on natural history. My intention is to deal only with the ordinary peacock, the bird known in England for centuries as a tenant of poultry yards, or an ornament about the houses, parks and aviaries.

Lucius Junius Moderatus Columella, writing nearly two thousand years ago, says: "The education of peacocks requires rather the care of a gentle householder who dwells in a city, than a crabbed, surly rustic; but neither is this foreign to the business of the husbandman, who is always endeavoring to procure to himself pleasure from all sides, wherewith all the solitudes and irksomeness of the country may be softened and allayed; for the beauty and comeliness of these birds not only gives delight to the owners, but also to strangers." He goes on to say that keeping the peacock is a simple matter. "Because there is no fear of thieves, etc., it wanders up and down safely without a keeper, and acquires for itself the greatest part of its nourishment. The females, indeed, as if they were discharged from bondage, bring up their young ones of their own accord, with greater care. Nor ought he that has the care of them to do any other thing but by giving a signal at a certain time of the day to call together the whole flock near the manor house, and to throw a little barley before them, when they come together, that the fowls may not be hungry, and that he may review them, and count the number of those that come to the place." This is excellent advice, and should be followed by everyone keeping poultry about homesteads, stack and rick-yards, or on wide ranges, so that he or she may each day look over the stock, note their healthiness, and see if any are missing or injured.

Columella also advises that at certain times or seasons, when the peacocks become pugnacious and highly combative, there should be a separate yard and sleeping-place for each peacock and his five peahens; though at other than the breeding months they can be allowed to roam and associate. By this means a large number may be kept, and a lucrative progeny raised. He strictly insists "that their lodging-place ought to be entirely free from moisture, and that the perches be made movable, so

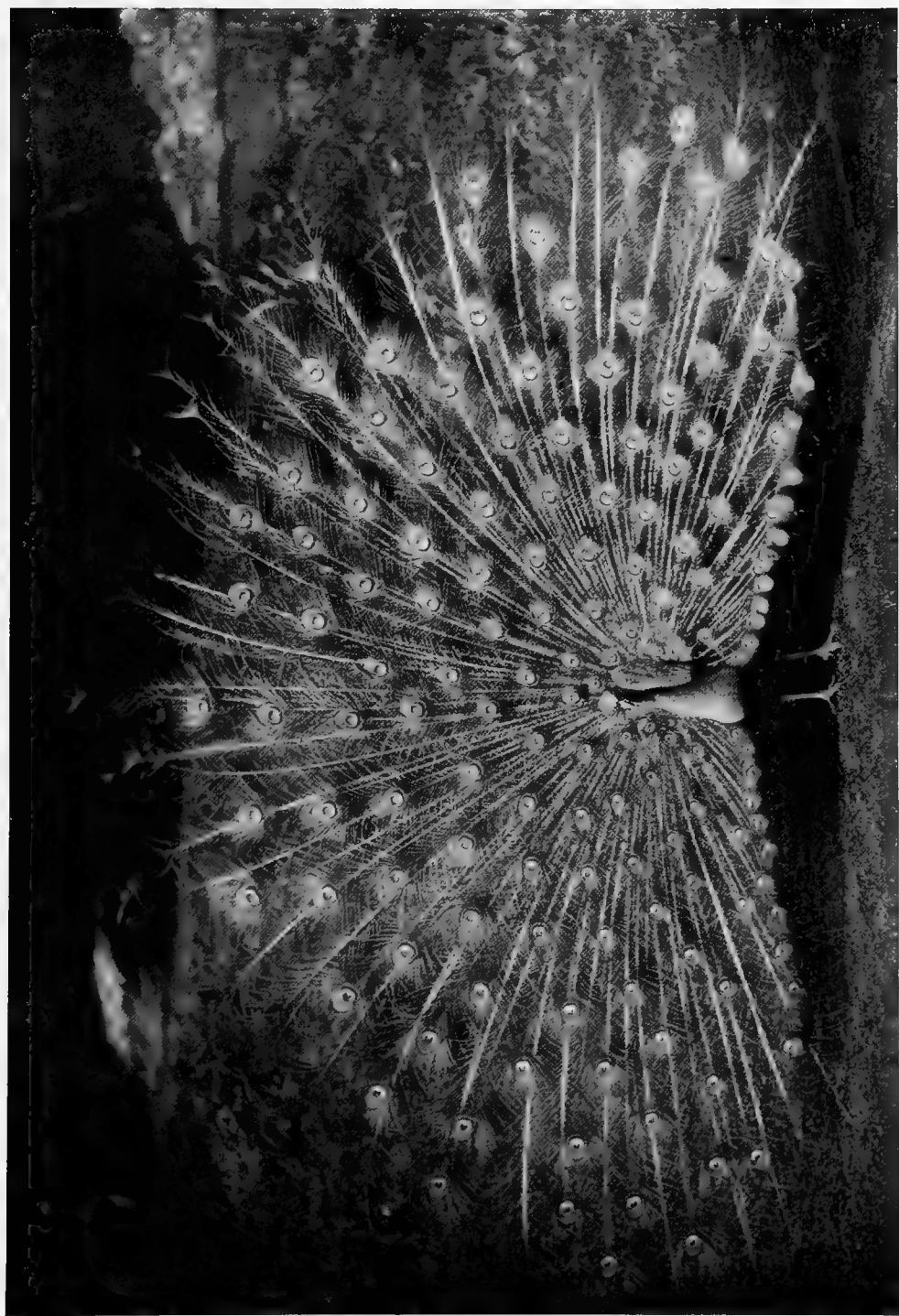
that they can be taken away for the time when it is necessary to sweep out and cleanse the building and floor." Of the peacock in general he says, "This kind of fowl when fully three years old breeds exceedingly well, and as it has the salaciousness of the common poultry cock, it requires five females. At the time of the peahens laying, the aviary must be well filled with a great quantity of straw, as they are apt to lay in the night when perched, and by this means the eggs are preserved from injury. The eggs must be collected daily. Their first laying is of five eggs; the second, four; the third, either three or two."

Columella advises that which is contrary to modern practice, when he says, "the largest common poultry hen should be prepared for sitting on the peahen's eggs. If she be of middling size there ought not to be more than three peahen's eggs and six of her own kind placed under her. After she has hatched the young ones, those of her own kind ought to be transferred to another nurse, until a flock of twenty-five be made up.

"When the young ones are hatched in like manner to the chickens of common poultry, let them not be removed the first day; the second day, let them be transferred to a coop with the nurse that is to educate them, and let them be nourished with barley-meal besprinkled with wine, also with boiled pottage or gruel of any kind of corn, cooled. Then, after a few days, to this food must be added some leek, cut very small, and soft cheese out of which the whey has been squeezed with great force, for it is manifest that whey is hurtful to the chicks. Locusts, with legs removed, may be added, etc. After the thirty-fifth day from hatching, they may safely enough be led out into the fields, and the flock follows the clucking hen as if she were their mother. Shut up in a cage, she is carried to the fields by the feeder, and, being let out, is secured by a long line tied to her foot. The young ones fly up and down and around her, and when they have fed to satiety, they are brought back to the manor house." Thus far Columella.

I now turn to Varro,* another man of supreme learning, much experience, and knowledge, especially of agricultural subjects in which as a profitable study he included poultry. He was coeval with Columella, but even then the peacock was kept in confined space, as a commercial part of his villatic stock.

* Varro was born in the year of Rome 638, and his death occurred in 726, so that he must have been in the eighty-eighth year of his age.



From a photograph by C. K. Reid

A PEACOCK IN ALL HIS GLORY

In Book III. of his writings on agriculture, Chapter IV., he says: "I will not play a losing game: that is, I will speak of present times, rather than of the past, for greater profit is taken from peacocks than from common poultry." By this it will be observed that poultry was kept, not only for amusement, but for the increase of income. In a dialogue between Axius and Mirula, Chapter VI., the latter replies: "In relation to peacocks, stocks of them began to be raised in our memory, and to be sold at a great price. M. Ansidices Lurco is said to make above sixty thousand sesterces a year of them. The cocks ought to be fewer than the hens, if you regard profit; if you have them for pleasure, it is otherwise, for the cock is the most beautiful bird. Wild flocks of peacocks are said to be in islands in foreign parts, in the grove of Juno, at Samos, and in M. Piso's of Planasia. For raising flocks, these are procured at a good age and of a beautiful breed, for Nature has bestowed the palm for beauty on this bird. They are not fit for breeding when less than two years old, nor yet when they have become quite old. They are fed with every kind of grain, especially barley, and Seius allows them a modicus of barley each, every month, and they have more when they breed and before they lay. He expects to have three young ones from his keeper, and when they are grown he sells them for 'fifty denarii,' so that no sheep turns to so good account. Besides, he buys eggs and sets them under hens, and brings the young ones when they are hatched into the building which he has for peacocks, which ought to be made in proportion to the number of birds." Here it should be noted that the breeding stock was kept in confinement, and not allowed to roam at pleasure. "It ought to have a place before the building where they may feed in fine weather. These birds wish to have each place kept clean, and therefore the keeper ought to go about with a shovel and take up the dung and lay it up, because it is useful for agriculture and for littering the young brood." This last instruction seems contrary to cleanliness, though it was a practice long known among pigeon fanciers of the present time. The late well-known fancier, Mr. Bowler, advocated it, and his lofts fully bore out his belief.

This shows that peacocks were early raised as farm products, not so much for their beauty as for the absolute profit gained; and also that the methods of breeding, as to age, number of the sexes, and food, were very nearly the same as those in use at the present time. The old process of rearing, keeping, and fattening poultry differs but little in the main from that of to-day.

The Rev. R. Warner* states that "the luxury of the English, as far as it regarded the table, during the succeeding reigns from Rufus to the end of Henry III., seems to have increased to a pitch of extreme excess. . . . It was about this time that the peacock became a favorite dish at the tables of the great, where it was served up with many solemnities. . . . In the thirteenth century it was sufficiently esteemed to be made the prize of the conqueror at the game of quintain."

Peacock crests in ancient times were among the ornaments of the kings of England. Ernald de Aclent paid a fine to King John "in a hundred and forty palfreys, with sackbuts, lorains, gilt spurs, and peacocks' crests—such as would be to his credit."†

The peacock held, and still holds, a place in heraldry, of which there is an example in the church of St. Lawrence, Blackmore. On an altar tomb of one of the family of "Smith" there is a slab with field argent, a cross gules between four peacocks, close, azure. Crest: a peacock's head erased, azure, ducally gorged or.‡ In this church there are six other tombs of the Smith family with similar armorial bearings and crests.

It was a favorite with the poets of the past as a bird of beauty, emblem of pride and vanity, and notable at feasts as a special dainty, though often declaimed against, not only as inferior diet, but absolutely foul and unwholesome.

It figured at most of the large feasts and royal banquets, merely roasted, when two were put on a dish, but the "Peacock in Hackle" was treated differently. Being an old bird, it was skinned, stuffed with hot and strong spices, then roasted after being par-boiled, and when cooked its skin and plumes were replaced, also the train or tail. This treatment no doubt gave rise to the somewhat superstitious belief that, "Its flesh is esteemed harder, colder, drier, and of more difficult concoction than that of hens. Being boiled or roasted, it will not putrefie, but keep a year or more, uncorrupt. This is commonly believed, and proved by an experiment made by St. Augustine, who in his 21st Book of the 'City of God,' Chap. II., writes thus: 'Who but God, the Creator of all things, gave to peacock's flesh a faculty of not putrefying, which thing at first hearing

* The Rev. R. Warner's "Illustrations, Historical, Biographical, and Miscellaneous, of Sir Walter Scott's Novels. Time of Ivanhoe."

† Madox, "Arch. Exch." I., 273.

‡ *Essex Review*, No. 30, Vol. VIII., p. 81.

seeming to me incredible. It happened that at Carthage there was set before us a roasted peacock, of the brawn of whose breast we caused to be kept so much as we thought convenient, which being produced after so many days' space as any other roasted flesh would corrupt in, did not at all offend our nose. Being laid up again, after more than thirty days it was found the same as before, and likewise the same after a year, save that it was somewhat drier and a little contracted or shrunk.' To us it seems not so wonderful that the flesh of a peacock, which is of itself sufficiently hard and solid, being rendered harder and drier by roasting, should continue a long time uncorrupted in a hot country such as Africa, especially if care be taken that in moist and rainy weather it take no wet. I doubt not that the same would happen to turkey's flesh, or even to pullet's, boiled or roasted. Let them abstain (saith Aldrovandi) from eating peacock's flesh who live a sedentary or idle life, using no exercise, for it is more agreeable, or at least less hurtful, to those that exercise much (I mean the flesh of young peacocks only, as being more tender). But in my opinion, and to my palate, the flesh of young peacocks is very tender, delicate, and well tasted, purely white, and deservedly held by the Romans of old in high esteem; its price nothing inferior to that of hens or partridge.'*

"The peacock (saith Aldrovandi) is a most beautiful bird to behold, but pleasure to the eye is counterbalanced by many an ungrateful sound stroke upon the ear, which is often afflicted by its odious noises. The common folk of Italy say it has the feathers of an angel, the voice of a devil, and the stomach of a thief." Shakespeare says that its vanity was proverbial. In the "Comedy of Errors," Act 4, s. 3:

"Fly pride says the peacock."

And he noted well the action of the bird, when he makes Thersites say:

"Why he stalks up and down like a peacock;
A stride and a stand."—TROILUS AND CRESSIDA.

The bird's most curious action takes place when he is in his "pride." Standing in full array among his hens, with tail erect, all gorgeous, glittering, and glowing in the sun, he turns, and turns again. Then facing the full, hot light, he shivers, with a short, tremulous action, and utters a low, pretentious noise. His scintillating, rich-eyed colorings appear like live beauties on a feathery ground, as in shifting they catch and lose the

* Willughby's "Ornithology," translated by Ray, Book II., p. 159.

rays. No other bird has such plumes, nor is any more conscious of his charms. All birds are vain, in their nuptial plumage, but there is truth in the old adage, "As vain as a peacock." Even Æsop knew this by observation, and he decked the would-be proud jackdaw in peacock's feathers. In China the mandarin, who is a chief among chiefs, wears a peacock's feather.

The peacock is often a vicious and troublesome bird to keep, especially if there are other poultry. He often chases and kills whole broods of chickens, even the hen herself, and if she be caught on her nest, the eggs are destroyed and mostly eaten. A neighbor of mine at Brenchley, Kent, kept peacocks, and, although they were housed and fed a quarter of a mile off, one cock would fly nearly the whole distance to my poultry runs, where he did much damage, killing several birds. Others belonging to my father-in-law, J. F. Herring, were docile and quiet among his other poultry, and roamed the pleasure grounds without doing any injury to the plants and shrubs. I have known of others equally tame and peaceable, though such cases are not general.

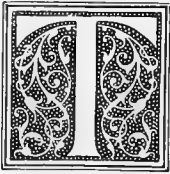
The peacock is particularly shy at the nuptial season, although very salacious, as my friend, F. Wilson, naturalist at the Crystal Palace, informed me. The peahen seeks retired places for her nest, and avoids as much as possible the intrusion of the male, who is apt to destroy the nest and eggs. She lays from five to seven eggs of a whitish color. Mr. Wilson had one peahen that laid at one clutch as many as twelve, out of which he was so fortunate as to hatch seven chicks. The young are easily reared, especially on a dry, fertile soil, where the peahen can have the shelter and range of a shaw, hedgerow, or wood, as well as pasture land. The peachicks will thrive on the same kind of food as young turkeys. When well grown they should have a variety of grain, but about the breeding season more barley, which has a tendency to make them salacious and to increase the fertility of their eggs, as well as the number. The young keep with the old birds throughout the year, and are seldom driven off until the next breeding season. The peacock does not obtain his full adornments until the second year, and is at his best in the fourth, fifth, and sixth. It is said to be a very long-lived bird, one hundred years a possible age, but, although I have made many inquiries, the limit so far has been from twenty to twenty-five years, and even that has lacked proof. The flesh of the old birds is dark, hard, harsh, dry, and, unless very fat, almost tasteless, while that of the

peahen, at about twelve months, is good and gamy, and the peachicks, when properly cooked and served, are exceedingly palatable. As they are by no means expensive nor troublesome to rear, it is surprising that so few are kept for commercial purposes, particularly as Varro has expressly said that he found them to be of exceeding profit.

The feathers of the peacock are of some value. The quills of both cock and hen are still in demand for decorative purposes. The utmost cleanliness is necessary for these fowls, and fresh water must be given them at least once a day. If kept in confined runs, they require green food daily, such as cabbage, lettuce, green oats and corn. Such weeds as cow-parsley, etc., are good.

Alexander made a decree in which those who killed a peacock were subjected to the punishment of death, as it was by him considered a divine bird. The peacock in "his pride" was looked upon as the king of birds, in beauty as well as in stately, arrogant bearing. In pictures, the wings of angels were often decorated with the peacock's train feathers, because, however useless for flying, they were splendidly gorgeous, and even churches were thought to be beautified by their presence.

THE GUINEA FOWL*



THE Guinea hen, as it is sometimes called, is said to have been brought to England by the Romans, at whose feasts it was held in high esteem, but I can find no mention of it in any of our early records. At present it is not kept so largely as it might be, considering the excellent quality and high flavor of its abundant breast-meat. The Guinea fowl is also a prolific layer of somewhat small, prettily-colored eggs, but its roving disposition and its habit of making nests away from the homestead, in tangled hedgerows, close coppices, woods, and other places where they are difficult to find, causes great loss. Much useless searching is required, so adept are they in the choice of locality, and besides, unpaired hens will resort to the nests of mated birds, and overload them with dozens of unfertile eggs, not distinguishable from the others. Thus it happens that few chicks are hatched, and in many cases none at all. The Guinea fowl, being monogamous, must be kept in pairs, though an odd hen or two may be allowed to run with a flock of half cocks and hens. If allowed to sit, they are excellent mothers, and when in a semi-wild state will not only hatch a full complement of eggs, but tend and rear their chicks in copses, shaws, or woods, without attention. On more than one occasion, I have known a covey "put-up" by the dogs, when pheasant shooting, at a considerable distance from any poultry or rick-yard. The better plan is to collect the eggs, when possible, and put them under a common hen. If fed in the same way as poultry, and if the hen is cooped near a wood or rough, bushy, and tufted-grass range, the young generally thrive, and give little trouble from the egg to mature growth. The time of incubation is thirty days, and the hatching should not be too early, as the chickens are tender of cold and more difficult to rear if there be not sufficient insect life and weed seeds, on which they

* The Guinea fowl is widely kept in America. Like the peacock, it is most at home where it has a free run of a wooded tract or access to brush lands. They are kept by many farmers to ward off the attacks of hawks on chickens and other fowls. It is said that hawks will not visit a yard where Guinea fowls are kept. However true this may be, it accounts, nevertheless, for many flocks of Guinea fowls in the average farmyard—
EDITOR.



From a photograph by C. Reid

WHITE, SPLASHED, AND OTHER GUINEA FOWLS

feed and do well. Early birds are treated much in the same way as young turkeys, though they are more easily raised.

Guinea Fowls are natives of Africa, in some parts of which they may be seen in large flocks. Even in this country they retain much of their native wildness, and roost on tall trees, often some distance from home. Where there is food to be found in the woods, they sometimes are gone for days, unless watched and driven in, and when the cover is extensive it is not uncommon for the whole flock to wander away and so become lost until the fall of the leaf. Even then, except for their continual call at morn and night, "Come back! come back!" they would possibly remain undiscovered, and so perish from hunger and cold on the approach of winter. They are very combative, especially in the early spring and during

the pairing season, and resolutely fight, not only their own species, but they harass and worry the other denizens of the poultry yard.

The cock is distinguishable from the hen by a deeper and richer color on the neck, and by being more compact in shape. His wattles stand out wider than those of the hen, are a brilliant red, and somewhat hide a portion of the beak. Those of the hen are more pendulous, and besides there is a distinguishing difference in the "call," as the hen only uses the curious, petulant cry, "Come back! come back!"

As they breed later than the common fowl, they are in season in January, February, and March, and at that time they realize good market prices, as a substitute for game, which is out of season, and are by some preferred to pheasants. Their eggs, in March and April, realize more and find a readier sale than those of either fowls or ducks.

The illustration so well delineates the form and character of the birds as to render description needless, but they vary much in color, though all, even the white, show the beautiful, round spots and markings, visible in some lights. They are, occasionally, a deep purple in the ground color, with a white petal on the heart, which is always present. The most common have a gray ground, but there are also some dove color, others a delicate fawn, and a few light, sooty brown; but of all colors the white is the most valuable.

THE TURKEY*

F. E. DAWLEY, NEW YORK



ALTHOUGH America has not contributed many varieties of fowls to the world's store of breeds, those which she has given are deservedly popular and profitable, and among them her principal and natural gift—the turkey—holds a remarkable place. Many writers have tried, unsuccessfully, to place the land of the turkey's nativity elsewhere, and to account for the name by showing that it indicates other than an American origin. The best evidence proves that when the turkey was first imported into Spain and England it was confounded with the Guinea fowl, then often called "turkey," and that as the people became acquainted with the two birds, the term Guinea clung to one and Turkey to the other. No matter how the name originated, it is perfectly clear that the Spanish discoverers of America found the bird here, and that among their trophies on the return voyage were a few turkeys.

The earliest description of the turkey is given by Oviedo, in his "Historia natural y general de las Indias," supposed to have been written in 1527. He calls both turkeys and curassows "Pavos" (Peafowls); but distinguishes very carefully between them, saying among other things, "that the Turkey makes a wheel of his tail the same as the Peafowl," although it is not so beautiful. The chief point of interest in his account is that he speaks of the turkey as already having been taken from New Spain (Mexico) to the islands of Castilla del Oro, where they had been tamed, and bred in a domesticated state by the "Christians."

Lopez de Gomara, whose book was printed in 1553, makes use of the name *Gallopavo*, and says that the "animal" much resembles in shape the peacock and the domestic cock, and that of all the fowls in New Spain

*This truly American fowl is found in all parts of this country, and is a great favorite. Its popularity as a delicacy on special occasions increases year after year. It is difficult for the trade to supply the demand at Thanksgiving time and during the holiday season. In writing this account, Mr. Dawley has drawn freely from the historical sketch by Mr. Weir.—EDITOR.

its flesh is the most delicious. René de Laudonnière found them on his landing in North America in 1564; Pedro de Cieza saw them on the Isthmus of Darien, and Dampier in Yucatan. Beckmann says: "These testimonies are sufficiently strong and numerous to convince any naturalist that America is the native country of these fowls, though this fact and also the time of their importation to England were strenuously combated. None were imported into England until after the discovery of America."

From all the data obtainable it is evident that the bird was pretty well scattered over Europe by 1540; but as Mexico was discovered twenty-two years before, the theory that Cabot, or some of his immediate successors, took many of the birds to England would seem to rest on a firm foundation. In 1541 we find the first documentary evidence of its existence in England, in a "constitution" set forth by Cramer, wherein the "turkey-cocke" is mentioned as one of "the greater fowles" of which an ecclesiastic was to have "but one dishe." As the crane and swan are mentioned in the same list, the supposition can be refuted that the guinea-fowl was meant. The low price of "two turkey cockes and four turkey chicks" that were served up at a feast of some "serjeants-at-law" in 1555, would indicate that at this time they were very abundant, and it is recorded by Tusser that as early as 1573 they played a very "greate parte in the Christmas husbandrie faire."

In 1555 both the cock and hen were drawn by Belon, in his *Oyseaux* (page 249), and in the same year a cut of the cock was made by Gesner. These appear to be the first representations made of the bird.

On the continent of Europe the fowl seems to have been fully as popular as in England, and the tables of the nobility were often graced with fine specimens; in fact it is recorded that the principal dish at the wedding of Charles IX., in 1570, was "baste turkey." In the original work the following appears:

"The first turkey was eaten in France on the 27th of June, 1570, at the wedding feast of Charles IX. and Elizabeth of Austria. A number of these birds had been sent from Boston to St. Malo, and when the ship reached this port the provincial governor despatched a dozen of them to the chief of the King's kitchen, thinking they would be a welcome addition to the royal table. These twelve turkeys were stuffed and served on a spit like so many larks, and the great dignitaries of the court, as well as the Cardinal de Lorraine and the Queen Mother, ate so much of them that

they had an attack of indigestion." A further account, which appeared about the same time, says that "Turkeys were first introduced into France in the time of Charles IX., 1570, from Boston, in America. The King commenced breeding them in the forest of St. Germain, and soon they became by no means uncommon on the tables of the court and the upper classes. But it took more than half a century to render them popular." From this it appears that the French turkey came from America direct, while the English was said to be imported from Spain, whence it came from the West India Islands, and this is now called a different breed to the American tame and wild turkey.

They were known in Italy in 1557. About the year 1570 Bartolomeo Scappi, cook to Pope Pius V., gave, in his book on cookery, several recipes for dressing these expensive and much esteemed fowls. That they were scarce at this period appears from the remark that the first turkeys brought to Bologna were some that had been given as a present to the family of Buoncompagni, from which Pope Gregory XII. was descended.

That these fowls were not known in England at the beginning of



Photograph by courtesy New England Homestead
BRONZE TURKEY

First prize at New York, 1902. Owned by Valley Farm, Connecticut

the sixteenth century is very probable. They are not mentioned in the banquet given by Archbishop Nevill, nor by Andrewe Boorde in his "Dietary of Helth," 1542-47, though he praises capons, hens, etc.; nor in the regulations by Henry VIII. respecting his household, in which all the fowls used in the royal kitchen are named; and turkeys were introduced about that period—some say 1524, others, 1530, others again, 1532. Young turkeys were served at a great banquet in 1555, and in 1585 they were commonly reckoned among the number of delicate dishes. Tusser, in his "Five Hundred Points of Husbandry," ed. 1585, says:

"Beef, mutton, and porke, shred pies of the best,
Pig, veale, goose, and capon, and turkie well drest;
Cheese, apples, and nuts, jolie carols to heare,
As then in the country is counted good cheere."

Maister Thomas Cogan, in his book "The Haven of Health," 1697, gives but scant notice and praise to the turkey, coupling it with the peacock, thus: "Peacocks, if they are old, be hard of digestion, and so are Turkey cockes likewise, but the chickens of either of them, about halfe a year old, are good and wholesome."

Turkey cocks are commended by Archbishop Cranmer as part of a bishop's dinner, with capons, etc. It appears that they were common, from the following extract from the Denham Wills, published by the Surtees Society, LXXIV., page 155. In the inventory made of the goods of one William Sevison, dated July 24, 1587, one reads under the head of "Pullane":

"One Turkye Coke, iij turkye hens, vj yong turkyes, 13s. 4d.," ten birds in all. Of the other poultry, two house cocks and nineteen hens were valued at 6s. 8d.; one gray cock and three hens at 5s., and thirteen chickens, 5s. Here we not only get enlightenment upon the "commonness" of the turkey at this time, but upon its actual value. In Shakespeare's play, "1 Henry IV," Act II., scene 1, there is the following dialogue between carriers:

"Inn Yard, Rochester.

"Second Carrier: I have a gammon of bacon and two razes of ginger to be delivered at Charing Cross.

"First Carrier: God's body! The turkeys in my pannier are quite starved. What, ostler! etc."

This play was entered on the Stationers' Company's Register, Feb-

ruary 25, 1597-98. It not only appears that Shakespeare was well acquainted with the turkey, but that they were so plentiful as to be in the hands of "higglers." These carriers, at that time often dealers, were bound for London, and the panniers they used were originally bread-baskets.

Again, in the play of "Twelfth Night," Act II., scene 5, Fabian says in reply to Sir Toby:

"Here's an overwhelming rogue!
O, peace! contemplation makes
A rare turkey cock of him; how
He jets under his advanced plumes."

And in "King Henry V.," Act V., scene 1 (Enter Pistol):

"Gower: Why, here he comes, swelling like a turkey cock.

"Fluellen: 'Tis no matter for his swelling like a turkey cock."

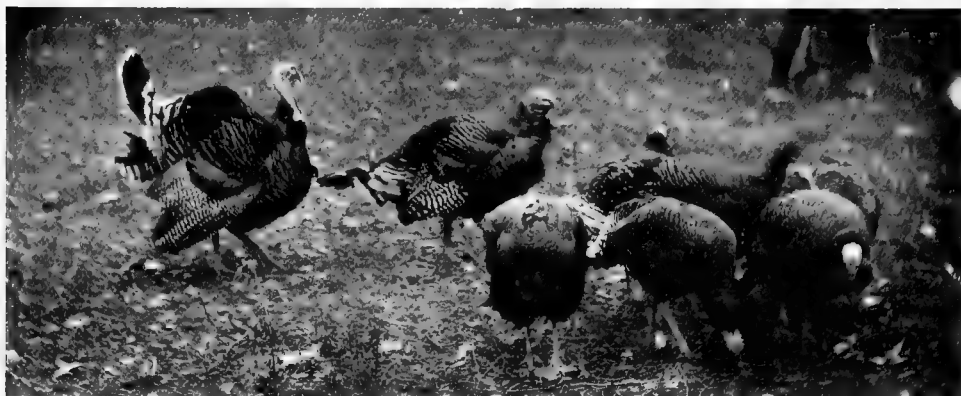
This play is not mentioned by Meres in his "Palladio Tamia," 1598, but it is said to have been acted in 1599, although the earliest edition in quarto is that of 1600.

In that very interesting book, "The Annals of the Barber Surgeons," occurs the following item in the menu of a feast, July 27, 1676:

"Ffr 3 dishes Turkies and sas (sausages), 2 in a dish, 18 s.," and in March, 1678, among the provisions were included "dishes of Turkies." At another feast (1684) poultry was cheaper, sixteen turkeys costing but £1 14s. 8d.; and in 1685, fourteen turkeys, only £1 11s. 6d. From that time the prices have gradually advanced, although more turkeys are kept in England, and there are also occasional importations from France. Mr. John Boys, in "A General View of Agriculture in the County of Kent," 1805, remarks that "Geese, turkeys, fowls, and ducks, are bred in the country sufficiently to supply the inhabitants, and a few to spare for the shipping sailing from Gravesend." He goes on to say that "Poultry has much increased in price within the last few years. Turkeys now sell as high as 6s. and 7s.," and other poultry in proportion. Of course, the price depended much, if not entirely, on the size of the birds. Since the time of which Mr. John Boys wrote, the price of turkeys in Kent has more than doubled, good turkeys at Christmas, 1898, realizing as much as 1s. per pound, while large, well-fatted superior birds were sold at 1s. 3d. per pound, and in good demand at that sum. Norfolk and Cambridge, Sussex and Surrey birds, were as successfully marketed, but the French and

Irish brought a little less, though the best quality of the former leaves little to be desired. The Italian are not so large, though good in flavor, and sell wholesale from 6d. to 9d. per pound. At the present time the keeping, rearing and fattening of the turkey ought to prove an occupation of considerable profit to the producer, where soil and climate are suitable and the birds can receive careful and intelligent attention.

"The week preceding Christmas Day, 1810," says Daniel, in his "Rural Sports" (Supplement, 1813), "not less than thirty-three tons of turkeys and game were sent from Norwich City and County to the Metropolis, which, including the expense of package and carriage, averaged one shilling and sixpence per pound, and amounted to more than £5,500."



TURKEYS AT HOME IN THE FARM YARD

In America the wild bird was pretty generally distributed, and we have records of its having been found in large numbers by the early settlers from the Atlantic to the Pacific, and from the Great Lakes to the southern boundaries of Mexico. The wild turkey of Mexico differs somewhat from the Northern variety. In fact, some ornithologists have classified them separately, retaining the name *Meleagris gallopavo* for the wild turkey of the East, while the Mexican variety is regarded as *Meleagris Mexicana*, and the ocellated turkey of Yucatan, or Honduras turkey as *Meleagris ocellata*. The last is considered the most beautiful of the race, having feathers "pied" or with "eyes" like those of a peacock. It may be that this variety was seen by some of the early writers who confounded the peafowl and the turkey.

According to Doctor Baird, the chief difference between the two varieties of wild turkey native in the United States is that the tail and many of the body feathers of the one found in Mexico have a band of creamy white or silver gray across their tips, while in the Northern variety this band is chestnut or chestnut brown. Those who are buying wild blood to introduce into their flocks of domesticated turkeys should insist on the birds having this marking, as it is the only guarantee, especially in the East, that the stock is bred from wild birds. B. G. Elliott, in an article written in the early sixties on "The Game Birds of the United States," says of the wild turkey of the East:

"The turkey may be considered as both migratory and gregarious. The first of these circumstances depends upon the exhaustion of their favorite food in any particular section of country, or upon the opposite fact of there being a great abundance of it in some other place. When the latter is the cause of their migration, they seem to be insensibly led toward the land of plenty by finding the supply of food increased as they advance, and not from any particular instinct of their own. Their food consists of maize, berries, fruits, grasses, acorns, and, in that part of the country where it abounds, the pecan nut is preferred to everything else.

"When migrating, if they reach a river over which they desire to cross, they generally remain near the bank for a day or two before making the effort; seemingly either to consult upon the means of accomplishing their intention or to recuperate their strength before undertaking the difficult feat.

"While they are thus waiting, the males employ their time in gobbling continually, or in strutting pompously about with lowered wings and expanded tails, while the females sometimes imitate them in these movements. When they consider that the time has arrived for proceeding on their journey, the entire flock mount to the tops of the highest trees, and, at a given signal from their leader, launch themselves into the air and fly to the opposite shore. The old birds easily cross, but, should the stream be wide, the young and feeble frequently fall into the stream, and proceed to swim ashore, showing considerable dexterity in closing their wings, using their expanded tails for support, and striking out rapidly with their long and powerful legs. If the shore should be steep, some are unable to ascend, and, falling back from their unsuccessful attempts, perish in the water.

"Toward the latter part of February, what may be termed the love season commences. The females separate themselves and endeavor to hide from the males, while the latter with almost unintermittent gobbling, seek for them in all directions.

"At this season of the year I have heard the rolling notes of the males in the early morning resounding from every side, as they stood upon their perches. On the appearance of the rising sun, they ceased calling, and silently sought the ground, where they began to strut about, evidently hoping that the eyes of some watchful female observed their lordly bearing.

"Whenever the males meet while thus occupied, fierce battles ensue, ending, generally, in the death of the weaker party, unless he is fortunate enough to escape by flight. Of these flights Audubon says:

"'I have often been much diverted, while watching two males in fierce conflict, by seeing them move alternately backward and forward, as either obtained a better hold, their wings drooping, their tails partly raised, their body feathers ruffled, and their heads covered with blood. If, as they thus struggle and gasp for breath, one of them should lose his hold, his chance is over; for the other, still holding fast, hits him violently with spurs and wings, and in a few minutes brings him to the ground. The moment he is dead, the conqueror treads him under foot; but what is strange, not with hatred, but with all the motions which he employs in caressing the female.'

"The males do not always confine their attentions to one female. Several hens may be seen accompanying one gobbler, until they commence to lay, when they hide themselves for the greater part of the day in order to save their eggs, which he would destroy if he obtained the opportunity. The nest, a very simple structure, is generally placed in a thicket, to conceal it from the prying eyes of its various would-be despoilers, and the hen approaches it with great caution, rarely entering twice from the same direction. The number of eggs deposited varies considerably, some nests having ten, others as many as twenty. They are a dull cream color, profusely sprinkled with red spots. The young, when first hatched, are covered with a delicate hairy down, and are very tender, so susceptible to the influence of the weather that, should the season be rainy, great difficulty is experienced by the hen in raising them, for they rarely survive a thorough wetting. To guard against such a catastrophe, the first night is generally passed by the young brood in the nest, and the mother then

leads them to elevated, dry places, sheltering them at night under her outspread wings until they are two weeks old, when they roost upon the broad branch of a tree, still covered by their watchful parent's wings.

"The turkey has many enemies besides man, among the most feared being the lynx, the fox and the great-horned owl. The lynx sucks their eggs, and seizes both young and old birds, his stealthy, noiseless progress enabling him to approach even so wary a bird unnoticed. The owl is equally dreaded, his soft plumage permitting him to fly without a sound about the roosting-place, like some midnight sprite. The manner in which his attacks are met is ingenious and often successful.

"As soon as the warning cluck of some watchful turkey has placed the whole number on their guard, they immediately stand upright upon the limb and observe every movement of their foe, who soon selects one for his prey, and swoops down upon it with the velocity of an arrow. The fate of that one seems

inevitable; but, rapid though the owl's movement was, still quicker is that of his intended victim, who lowers his head, inverts his outspread tail upon his back, and meets the enemy with this inclined plane, over which he glides harmlessly, while the turkey drops to the ground and insures his safety by running away.

"Any unusual object attracting the attention of the male seems to throw him into a state of considerable excitement. He puffs himself up,



WILD TURKEY
From an Audubon print

very much in the same manner as when strutting, and the wattles which cover his neck become bright red from the sudden influx of blood. Sometimes a red cloth will excite his anger, and cause him to exhibit pugnacious propensities."

Although wild turkeys have become nearly extinct, they are not to meet the fate of the buffalo. Many fanciers of thoroughbred fowls are beginning to breed them, and to offer them to the farmers as stock improvers. Regarding these cross-bred birds I will give some facts later, but it is really surprising that the wild birds have been so nearly wiped out of existence in so short a time, little more than half a century. Audubon states that when he moved to Kentucky, wild turkeys were so abundant that the price of one in the market was not equal to that of a common barnyard fowl, and that he saw birds weighing ten to twelve pounds offered for threepence each.

The average weight of the male bird is from fifteen to eighteen pounds and the female from nine to ten. Some gobblers weigh much more. Instances are not wanting where individuals have weighed thirty to forty pounds each. But such cases are rare.

When full grown, the male measures four feet in length, and nearly five feet in the stretch of its wings. The naked skin of the head and neck is blue, the wattles red, and the legs a reddish blue. The feathers of the neck and body are a coppery bronze; the copper being much more marked than in the domesticated Bronze turkey, and changing in some lights to a greenish or purplish shade, margined with an opaque line of velvet black. The back and rump are also black, with little reflection; while the sides, together with the upper and under tail coverts, are dark chestnut barred with black near the ends, having metallic reflections of a rich purplish hue, and the extreme tips are opaque chestnut. The tail feathers are dark chestnut, barred with black and tipped with a light chestnut; near the end is a band of black, broadest on the outer feathers and narrowing as it approaches the central ones. Between the bars on the feathers, is a confused sprinkling of black. Neither upon the tail nor its coverts is there any white, and this is one of the surest indications of wild blood. From the center of the breast hangs a long, coarse, hairy tuft, always found in the males, and often in the matured females. The female differs from the male principally in being smaller in size and less brilliant in coloring, in having no spurs, and no small fleshy process at the base of the bill.

BRUSH TURKEYS

In the Zoölogical Gardens of London the Brush Turkey, which is a native of Australia, makes its nest, as it does in its wild state, by constructing a crude mound of earth, leaves, grass, sand, and other materials at hand, which by fermentation become heated. The eggs are deposited therein. Instead of a mother turkey upon her nest, the picture of patience, she can be seen in apparent carelessness strolling about the inclosure. The cock seems to be the more interested and by far the busier one of the pair. Not a sign of herbage, nor even a straw, is to be seen on the ground of their runway except what is contained in the mound. The male bird, who constructs the mound nest and keeps it constantly in correct condition, has apparently worn and torn every bit of herbage from the ground, in scratching and dragging materials toward the huge pile, which is about five feet high, and eight or more feet across the base.

The superintendent of the gardens, in a very interesting account of the Brush Turkey, says that when the young are hatched they creep from the mound, stout and strong, ready to care for themselves. On the second or third day they are capable of flight, and quite unnoticed by either of the parent birds. Each hunts his own food, and selects, regardless of the others, his shelter or roosting-place for the night. It is not unlikely that the ancient Egyptians, who are believed to have been the first to hatch eggs artificially, caught the idea from reptiles or birds which hatched by other means than the heat of their bodies."

THE BRONZE TURKEY

The most popular and profitable variety of domestic turkey is the mammoth Bronze, which, without doubt, has been bred from the Mexican wild turkey, with perhaps top crosses of the Northern. It has been developed by careful selection and good care into the heaviest and most imposing of our domestic fowls.

To describe the Bronze Turkey in all its majesty is beyond my power. The beautiful plumage of the male; the changing colors of the skin on head and neck; his proud strut, with expanded tail and lowered wings, jarring the ground; his elegant carriage, and the sheen of his feathers as he turns in the sunlight are points to which all who live in the country are accustomed. He must be seen to be appreciated.

A full-grown typical specimen is over four feet in length, and more than six feet in extent of wing. The head and half of the neck are clothed with a naked skin covered with uneven warty elevations, changeable red on the upper portion, and whitish below. This membranous, naked skin extends downward into large wattles. A wrinkled, conical, fleshy protuberance, capable of elongation, rises from the base of the beak, where the latter joins the front. When elongated, under excitement, it covers the beak and hangs several inches below it. The base of the body feathers, which are truncated, consists of dark slate-colored down. This part of the feather is succeeded by a darker portion, followed by a broad metallic band, varying from the color of copper or bronze to that of burnished gold, according to the play of the light; the tip is a black, velvety band. The general plumage of the body presents a metallic lustre.

The wings are concave and rounded, but do not extend below the base of the tail, there being twenty-eight quill feathers. The tail is fifteen to eighteen inches in length and rounded at the extremity, with eighteen feathers. It is broad, and capable of expansion and elevation into fan or "wheel" shape. The general color of these feathers is brown, mottled with black, with a broad black band near the tip; then a short, mottled portion, and lastly a broad, whitish band. The bird stands rather high on robust red legs, the scales of which have darkish margins, and the blunt spurs are about an inch long; the claws are dusky. The beak is a dark horn color at the base, gradually yellowing toward the tip.

When the hen-turkey is two years old she has attained her full size and coloring. The irides are similar in color to those of the male. The bill and spurless legs are less stout. The head and neck have less of naked skin, being covered to an extent with a darkish down. The short coruncle on the front of the beak is incapable of elongation. The body feathers at the base are darkish; approaching the end are brownish, with a metallic band, followed by a white or gray edging, more distinct on the breast feathers, and showing more plainly as the turkeys grow older.

The adult turkey, it is well known, is extremely hardy, and bears the rigors of our coldest winters with impunity, even in the open air. During the severest weather, flocks will frequently roost at night upon the roof of a barn, or in the branches of tall trees, in preference to an indoor roost. It is our experience that a change of blood will often make a weakly flock more hardy. I would never breed from turkeys that are related in the

least, and I fervently believe that one-half the trouble in rearing young turkeys comes from using brother and sister, or parent and chick to breed from. It is not wise to expose the hardiest to the severest weather, but, on the other hand, I do not advise giving them warm quarters, as they are very heavily feathered, and, when kept inside during the warmer nights, an insensible perspiration dampens their plumage. They thus more easily become the victims of roup, and come out in the spring in an unhealthy condition, unfit for breeding.

With us, the Bronze is not so much given to wandering as some of the lighter breeds. They seem to have more confidence in their keeper, are more delicate in their movements, and do not stray so far. They stroll off into the pastures and fields during the day, but are sure to be on hand at feeding-time.

Besides the Bronze Turkey, there are five varieties which are recognized by the American Standard of Perfection in poultry: The Narragansett, the Buff, Slate, White and Black. There is also a variety, not yet been admitted to the standard, known as the Bourbon Red, and there is no reason why the original bird, the American Wild Turkey, should not have been admitted years ago. This makes eight varieties of thoroughbred turkeys that breed reasonably true, and are the domesticated successors of the original wild bird. The distinguishing feature in all of these is the difference in color of plumage and in size. The Bronze and the Narragansett are the large birds. The Slate and the Buff are next in size. The Bourbon Red is very much like the Buff, but larger, and many flocks of the Buff are now being crossed with the Red. The White Holland and the Black are the two smallest varieties. During the last few years much improvement has been made in the size of the Slate and the White Holland, and many birds of these varieties now rival the Narragansett in size.

THE WHITE HOLLAND

Next to the Bronze, the White Turkey is probably the most popular. In England it has often been referred to as the Austrian White. In America it is known as the White Holland. It is hard to trace the origin of this variety, but possibly some of the early Dutch settlers brought it to America with them; or it may have originated from sports of the other kinds, perpetuated by selection and breeding. It was fairly well known in England at the beginning of the nineteenth century, and in some of the

earlier works described as delicate and small. A later infusion of new blood from the sports, already mentioned, has increased the size and



A PRIZE WINNER

vitality of these birds until now some of the hardiest and most profitable flocks of turkeys to be found are of this variety. An evidence of crossing can be found in the tendency of some of the larger birds to show shanks that are not of the true pinkish white called for by the standard; and also to show plumage that is not pure white. This does not affect their market value, but breeders should keep as close to the standard requirements as utility permits.

The standard weight for the White is less than for most other varieties, ranging from ten pounds for young birds to twenty-six pounds for old males; although some have

recently been exhibited that greatly exceed these weights. The Whites are the most showy of any of our turkeys. The plumage should be a beautiful snowy white throughout, with a heavy black beard on the breast, and toes of a beautiful pinkish white. Their magnificent carriage and bright red neck and head, showing at times all hues of the rainbow, give them a striking appearance, fully as remarkable when dressed for the table as when alive. Their skin is a good color, and the freedom from dark-colored pin-feathers makes them most attractive. Their size is very satisfactory to the market grower, as it is not always the largest birds that command the best prices. Where turkeys are largely

grown, it is found to be an advantage to keep birds of the same color instead of those which are common, and the White variety is one of the most satisfactory.

THE NARRAGANSETT

The Narragansett has been perfected in the New England States, and has done much to give Rhode Island and Connecticut their reputation for first-class market turkeys. They come next to the Bronze in size and are strong and vigorous. Their color is black underneath, each feather ending with a point of steel gray, edged with black. This gives a grayish cast to the entire plumage of the bird, while the black edging gives a black or bronze cast. Very full breasted, with a proud and upright carriage, they are beautiful birds. The female is a trifle lighter throughout her markings than the male. The standard weights for this variety are twenty to thirty pounds for males, and twelve to eighteen pounds for females. In rare instances, old toms have attained a weight of forty pounds, but there is no advantage in breeding these large birds, as the medium sized are more apt to be true to form and marking, and not so likely to show a decided bronze cast in the plumage. They are a little closer bird than the Bronze, with legs not quite so long, and many breeders claim that they mature at a much earlier age.

THE BUFF TURKEY

This is one of the rarer varieties, and in many sections where turkeys are kept it is almost unknown. The standard calls for a pure buff color throughout the entire plumage, but I have never seen a bird that met this requirement. They are more apt to be a reddish buff, or light chestnut, with many shades showing on the same bird. The standard weight for males runs from eighteen to twenty-seven pounds, and for females from twelve to eighteen. My observation leads me to believe that these extreme weights are seldom attained except in birds that show unmistakable evidence of crosses with some other variety, to increase the size. From the number of white feathers on the larger birds, it is evident that they have been crossed largely with the Whites.

Buff is a very popular color for fowls at the present time, and those breeders who have maintained their breeding stock in purity, and who are endeavoring to produce standard Buff birds, are reaping a rich reward.

THE SLATE TURKEY

The term "Slate" has always seemed to me a misnomer. The standard calls for a solid or ashy blue plumage, but it is not a disqualification if there are some black dots scattered throughout, though the fewer of these the better. The female is lighter colored than the male. Since we have Blue Andalusians, it would be better to have called these "Blue" turkeys, as this more truthfully describes their color.

The standard weights range from eighteen to twenty-seven pounds for males, and twelve to eighteen pounds for females. They are very much like the White, Buff, and Black turkeys except in color.

THE BLACK TURKEY

Many of the common flocks of turkeys to be found in America resemble the Blacks, more than any other of the standard breeds, in size and disposition. For many years this variety was sadly neglected and the flocks were inbred to such an extent that the size and stamina were somewhat reduced. During the past few years, interest in them has been reawakened and, through proper selection, and probably some crossing, they have become a very desirable variety. The weight for males runs from eighteen to twenty-seven pounds, and for females from twelve to eighteen pounds. They mature at an early age and are similar to the other varieties described, except the Bronze and the Narragansett.

THE BOURBON REDS

This variety is not yet admitted to the standard, although they are breeding fairly true to their color, a dark or brownish red, with white in the wings; tail tips of some of the feathers bluish bronze, and an under color that is almost white, although many breeders prefer buff. This is one of the varieties now being boomed, for it is claimed that it excels all others in richness of color in flesh and skin and that it has the heaviest breast of any bird. My observation leads me to believe that these claims, as others made in booming many varieties of fowls and stock, are not substantiated by facts, although the Bourbon Red is a profitable variety to keep, and probably easier to breed than the Buff, which it resembles greatly. It is about the size of the Narragansett.

As in all new varieties, many theories about its origin are propounded.

Some say that it was found in a wild form in the Ozark Mountains, in southern Missouri and northern Arkansas, but this is largely discredited. The writer's father spent the years between 1868 and 1872 in that section, and states that while he hunted wild turkeys in all portions of the Ozark Mountains he never saw anything resembling these birds in the least. They are known by the various names, Bourbon Red; Bourbon Butternut, and Kentucky Red. They appear to have been developed in Kentucky and southern Ohio. While they are worthy of consideration with our other varieties of domestic turkeys, I am unable to assert that they have any features of unusual excellence.

The chief advantage in keeping the various varieties of turkeys comes from the ease of identification in flocks, where large numbers are kept, and the breeders are thus enabled to suit their fancy in selecting breeding stock.

In addition to those described, in England there are bred the Cambridge Bronze, which is grayer, smaller, less hardy and lacks the brilliancy of the American Bronze; the Black Norfolk, dull black in color, a much smaller bird, and considered somewhat harder than the Cambridge; the White Austrian, the smallest of all domestic breeds of turkeys and a beautiful little white bird, though not bred to any great extent except by fanciers, the White Holland having taken its place.

In France there is a little gray-black turkey, with feathers edged with a clearer gray, that is called the "Dindon d'Italie," or Italian Turkey. It is used especially for incubation, the hens being very good setters and careful mothers, and it is said that they are made to sit whenever required. They are kept sitting from three to six months, two dozen hens' eggs being placed under them, and as these hatch out new eggs are substituted.

During the last few years a great many experiments have been made of introducing wild blood into flocks of domestic turkeys. Some of these have been very successful, while others have not achieved the best results. My opinion is, that the chief advantage comes from the introduction of new, unrelated blood, and that good, healthy, vigorous domesticated toms, from healthy stock, will do as well as the wild.

Very few of those who advertise wild turkeys have the full blood wild; it is chiefly crossed. In taking a male from any of these flocks, one is sure to get some blood that is not related to the hens. The question of inbreeding in turkeys is a most serious one, and probably is the reason of

more failures than all other causes combined. The fact that one fecundation only is required for all the eggs that will be given during one laying period has something to do with this. It certainly has been taken advantage of to such an extent that all the turkeys in some neighborhoods are related, to a greater or lesser degree. The practice of getting toms from near-by flocks should be discouraged.

According to the census returns, there are about 6,500,000 turkeys produced each year in the United States. The price ranges from twelve to twenty cents a pound, wholesale, and the demand for first-class stock is seldom met. During the holidays of 1904 some turkeys were sold as high as forty cents a pound, and the average price was very close to twenty-five cents. As turkeys can be produced at a maximum cost of eight cents per pound, there is no reason why more should not be grown, and there is no flesh produced on the farm which shows a better profit. It is not necessary for one to rear the large, overgrown birds. Those that weigh from ten to twenty pounds will bring a better price at Thanksgiving, and give more satisfactory results than the larger ones. The demand for turkeys at the holiday season is not confined to any one section. Farmers living in the vicinity of a town can readily dispose of their entire crop to private customers at retail prices, and need not depend upon shippers. This is true with regard to all varieties of poultry, though not true of other sorts of stock sold for consumption. The turkey raiser can completely eliminate the middleman from his calculations.

MATING AND HANDLING

When the matings for turkeys are properly made, a large measure of success is achieved. The hens selected should be of good size, all the smaller or weakly ones discarded, as size is more influenced by the dam than by the sire. Hens that are matured, or at least more than one year old, are preferable, and if yearlings are used they should be early hatched, well-grown ones. For a small flock the tom may be a strong, vigorous yearling, but for larger flocks a mature bird should always be selected. In making this selection, it should be remembered that color and finish are largely influenced by the sire. Both hens and toms should be of the same type, and the flock should be as uniform as possible throughout. I do not mean by this that for success one must necessarily keep full-bloods of some one of the varieties mentioned, but that each bird should be similar to all the

rest. This not only gives a fine-appearing flock, but one which is more easily cared for. If some of the turkeys are lean and lank, with long legs and a disposition to roam and forage, they will take far more grain than those of the short-legged, full-breasted type, which lay on fat readily. When the flock is being fed, one lot may be doing its best, while the other lot is being either starved or over-fattened, and in both cases egg-production will be lessened.

Usually the hens lay from eighteen to thirty eggs, although an exception is often found of a hen that lays as many as seventy eggs before wanting to set. If the turkeys have been well wintered, the first hens will usually begin to lay while the weather is so cold that the eggs will chill at night.



WHITE HOLLAND TURKEYS
Bred and owned by J. A. Leland of Illinois

These should be gathered, and a nest-egg placed in their stead until five or six eggs are laid. If the nest is allowed to fill with eggs, the turkey may become broody too soon. As the nights grow warmer, and there is no danger of frost, the eggs may be left out, provided no vermin can find access to the nest.

The breeding flock should not be kept in a small pen. The most successful practice is probably to have a large range for them, and to feed them at night in a smaller inclosure, where the hens can be shut in until after they have laid the next day. As the hen turkey is very nervous at nesting time, it is a good plan to furnish covered nests in these runs. An old barrel, or V-shaped coop, with some evergreen boughs thrown over it, is very acceptable. During the laying period, foods rich in protein should be fed, but as soon as the hens begin to set, the base of the ration should

be whole corn. Fresh water should be placed where the birds can get it each day.

It takes twenty-eight to twenty-nine days for turkeys' eggs to hatch, and though it may cause trouble to disturb them, it will pay to dust the nest and eggs, as well as the hen turkey, very thoroughly with insect powder two or three days before she is due to hatch. The young poults, when first hatched, are very tender, and the large turkey lice, which may have found lodgment on the hen, will immediately go to the young ones, to their serious disadvantage. When the young poults are hatching, the hen should not be disturbed. As soon as she seems willing to leave the nest, place her in a pen made of three boards about a foot high, making a three-cornered inclosure. Place a board across one corner for the hen to hover under. She will not leave the inclosure for any length of time, and this is a far better method than close cooping, which should only be resorted to when there is trouble with skunks, weasels or other vermin. A shovelful of coarse, sharp sand, or a dish of commercial grit, should be placed inside the inclosure. The young turkeys may be fed on curds, boiled eggs, or a plain custard made of eggs and milk, for the first few days. As soon as they have begun to show feathers in the wings and tail, it will do no harm to give them some oil-meal, cornmeal and stale bread, mixed up in milk, later on adding a little meat in some form. It is of prime importance for the turkey grower to remember that in a natural state the young poults feed largely upon insects, and that, as they grow rapidly and feather out at an early age, a large amount of protein should be given in the ration. They must be watched carefully for lice, and any that make their appearance must be destroyed; but prevention is far more effective than cure, and in this case it is essential. In feeding, as much as will be eaten up clean should be given at a time, and "little and often" should be the rule.

At the early period of growth, dampness is fatal, and the turkeys should not be allowed to become wet, even if they have to be driven into sheds and barns during a heavy rain. As soon as the youngsters begin to leave the inclosure, they may as well be given wide range. A field where the grass is short; a pasture, or a woodland that is pastured, so that the weeds are kept down, are very acceptable. They should be kept out of meadows and grain fields until after the crops are harvested, because the poults become wet and drabbed by running through the wet grass and grain and are often set back in their growth, or even killed. If regularly

fed they will be sure to come back to the feeding-grounds at night. In case any brood does not, they should be searched for and brought back. It is necessary to guard against over-feeding, as the young turkeys can practically get their own living where insects and berries are plentiful. In seasons when there is a good crop of grasshoppers, turkeys will live almost entirely upon them. If they are properly fed, kept perfectly clean and free from lice, with no temptation to eat stale food that is lying about, they will grow very rapidly.

From the time they are hatched until they are six weeks or two months old they need the most tender care, but after they have "shot the red," that is, after the red begins to appear on the throat and neck of the males, they are more hardy than young chickens, and practically none should be lost. With wide range, they almost take care of themselves, provided insects and berries are in season, but they should still be fed each night regularly. Continue giving food that contains a large amount of protein to grow the bone and muscle, up to the time when you wish to prepare them for market. At this time, the future breeders should be selected, taking as many of the best hens as required, with those of the old flock which are not too old. Unless you have the other turkeys marked, so that you can select males that are not akin, it is best to depend upon purchased birds, which should be secured in the fall from a flock that is not related, though typical specimens of the variety you are keeping. These should be marked, and while it may not be practical to separate them from those which are being fattened, it would do no harm.

In all stock breeding, the greatest profit comes from disposing of the fattened product as early as possible. For this reason, and from the fact that birds fatten more readily in warm than in very cold weather, the most profit is probably derived from marketing at Thanksgiving. As turkeys are very nervous birds, better results are usually obtained from fattening them while still at large and not attempting to coop them, for they often lose flesh instead of gaining it, when cooped. The best results are probably obtained from feeding in the morning a warm meshed food, composed of small boiled potatoes, Indian meal, cornmeal and barley mixed together and seasoned slightly with salt and pepper, giving them all that they will eat up clean. About four o'clock in the afternoon, feed whole corn, giving as much as will be eaten clean. Plenty of water should be provided, as no animal fattens profitably without it.

INDEX

- Accidental deformity, 44
- Addled eggs, 122
- African Geese, 1097, 1104, 1115
- Age, At what—to send hens to market, 98
 - in-breeding, 978
 - Feeding according to, 184
 - Influence of hen's—on sex, 115
 - Mating—for hens, 28, 45, 116, 336, 506, 509, 511
 - Right—for fighting Game cocks, 341
- Albinos, 454, 503, 634, 875
- America, Game Fowls in, 405
 - Leghorns in, 790
 - Single, comb, Black Leghorns in, 828
- American breeds, 93
- American Cochins, 537-44
- America's Business Hen, 800, 801
- Analysis of a capon, 150
 - of common feeds, 150
 - of an egg, 86, 122, 150, 188
 - of a hen, 150
 - of a pullet, 150
- Anas and Anser Cygnoides, 1101
- Anconas, 21, 93, 840, 857-64
 - White, 857
- Andalusians, 61, 93, 99, 859, 875-88
 - Blue, 875, 876-80, 883-86
- Anderson's Kaleege Pheasant, 1250-1257
- Antwerp or Homer Pigeons, 1189, 1213, 1231-33, 1321
 - Short-faced—Pigeons, 1233
- Archangel Pigeons, 1213
- Argus Pheasant, 1246, 1260
- Asiatic Breeds, 59, 65, 85, 93, 200, 638
 - Goose, 1101
- Atavism, 776
 - in color, 30, 344, 540, 634
 - in combs, 638, 935
 - in eggs, 42
 - of the fifth toe, 767
- Attic, 288
- Australian Game, 395-97
- Aviary or Loft for Pigeons, 1191-98
- Appliances for Pigeons, 1191-98
- Aylesbury Duck, VIII., 10, 54, 1118, 1122, 1127, 1129, 1130, 1132, 1133, 1142, 1144-48, 1149
- Azeel or Indian Game, 37, 47, 50, 51, 200, 235, 237, 238, 377-84, 387, 413, 415, 1033
- Bankiva, 411-14
- Bantams, 1033-36
 - Ancona, 1059, 1067
 - Ardenes, 1070
 - Birchen Game, 1038, 1041
 - Black-breasted Red, 1037-40
 - Booted, 1035, 1048
 - Brahma,
 - Dark, 1050-52
 - Light, 1049
 - Brown-breasted Red, 1038, 1041
 - Burmese, 1071
 - Campines, 1070
 - Cochin, 1036, 1037, 1052, 1253
 - Black, 1055
 - Buff, 1037, 1053
 - Cuckoo, 1059
 - Partridge, 1057-59
 - White, 1056
 - Cornish Indian Game, 1041
 - Coucous de Malines, 1069
 - Duckwing,
 - Golden, 1038, 1040
 - Silver, 1038
 - eggs, 61
 - Frizzled, 137, 1067
 - Game, 1037-42
 - Japanese, 1062-65, 1067
 - Langshan, Black, 1067
 - Leghorn,
 - Rose-comb Brown, 1066
 - Single-comb Brown, 1067
 - White, 1067
 - Malay, 1033, 1036, 1041
 - Minorcas,
 - Black, 1067
 - White, 870-73
 - Nankeen, VIII., 781, 1060
 - Old English, 1041, 1042
 - Orpington,
 - Black, 1067
 - Pekin, 1033, 1052
 - Plymouth Rock, 1066
 - Red Pyles, 1038, 1040, 1041
 - Rose-comb, 1033, 1035, 1036, 1039, 1044-47, 1060, 1067
 - Rumpless, 1067
 - Scotch Gray, 1059, 1066, 1067
 - Seabright, 1042-44, 1068
 - Gold Spangled or Laced, 957
 - Spanish,
 - Black, 1068
 - Sultan or White Booted, 1062
 - White Rose-comb, 1046-48, 1060
 - Barbary or Guinea Ducks, 1103

Index

- Barbed Dwarf of Antwerp, 1070
 Barb Pigeon, 1210, 1212, 1216
 Barley, 161
 Battle Royal, 349
 Bay Goose, 1115
 Beards, 906, 912-14
 Belgian Games, 418-20
 Black Games, 946
 Black Pheasant Fowl, 929
 Black-Headed Goose, 1115
 Black-Throated Golden Pheasant, 1264
 Bloodstain, 33, 37, 38
 Blue Games, 940
 Blue Rock Pigeons, 1184-86
 Blue Swedish Duck, 1159-62
 Blue Teal Drake, 1159
 Bolton Bays, 939
 Bolton Grays, 906
 Bornean Fireback, 1256
 Bow-Billed Duck, 1173
 Bowel trouble, 167
 Brackel, 1019
 Brahmas, 7, 20, 49, 51, 66, 85, 93, 220, 233, 559-86
 Dark, 20, 21, 563-66, 577-86
 Light, 18, 20, 86, 93, 94, 97, 99, 102, 528, 559, 560-66, 571-77, 991
 Brassy Wing, 536
 Breaster Pigeons, 1213
 Breathing, Diseases of—apparatus, 305
 Breeding, Age in, 978
 Andalusians, 879, 883-88
 Brahams, 562
 Dark, 563-66, 578, 580, 584-86
 Light, 576
 Buff Fowls, 547, 632
 Chart (Felch's), 42
 Cochins,
 Black, 552-54
 Buff, 547-51
 Partridge, 557
 White, 552
 for color, 45, 53-57, 343, 544, 548, 580
 Condition of a hen for, 42, 113, 120
 Ducks, 1127-35
 Feeding—stock, 187-88, 506
 to correct faults, 741, 779
 Games 50, 333-46, 363-69, 420
 Geese, 1076, 1085
 for Head, 740
 Houdans, 976-80
 Javas,
 Black, 725
 Mottled, 729
 Leghorns, 789
 Black single-comb, 829, 831
 Brown single-comb, 811
 Dominique, 840
 Pile, 836, 837
 Lincolnshire Buffs, 784
 Breeding, Minorcas,
 Black, 869
 Number of hens to a cock in, 290, 364, 741
 Old Kent, Sussex and Surreys, 508-12
 Out—yellow shanks, 56
 Pigeons, 1202-13
 Plymouth Rocks, 629, 631
 Barred, 618, 629
 Buff, 631
 Pea-comb, 638
 White, 634
 Polish, 918, 922, 924-27
 Golden, 919-21
 Laced or Spangled, 923
 for quality, 740
 Rhode Island Reds, 739-44, 746-51
 Selection in, 27, 57, 580, 792
 for size, 28, 333, 538, 675
 Spanish, 892, 894, 900
 Turkeys, 1296-98
 for Utilitarian strain, 802
 Variation of location in, 28, 41
 Wyandottes
 Black, 692
 Buff, 697
 Golden, 684
 Partridge, 700
 White, 688
 Breeds, Eggs characterized by, 84-86
 Bremen Goose, 1100
 Broilers, 50, 51, 674, 842, 966
 Bronchitis, 306
 Brooder House, 290, 295
 Cypher's, 299
 Brooders, 146, 295, 296, 297
 Goslings in, 1087
 Broody, Breaking—hens, 189
 House, 850
 Pens, 272
 Brown Chinese Goose, 1097-99, 1103
 Bruges Games, 1022
 Brunswick Pigeons, 1213, 1229
 Buckwheat, 162
 Buff Fowls, 544, 547, 632, 781
 Building paper, 283
 to save steps, 248, 250
 Bulbus aorta, 123
 Bumble foot, 461, 850, 978
 Burnham's Gray Shanghais, 532, 559-61
 Call Duck, 1166
 Campbell Duck, 1129
 Campbell strain, 564-66
 Campine Fowls, 1019
 Canadian Geese, 1076, 1114
 Candling eggs, 69
 Cape Geese, 1104
 Capon, 150, 225
 Caponize, How to, 238-42, 244
 Caponizing, Best time for, 242

- Caponizing, Breeds for, 233, 235,
 238, 674
 Cost of, 237
 Mortality in, 233, 237
 Table, 242
 Capons, 234, 235, 237, 238, 242,
 243-45
 Capuchin Pigeons, 1231
 Carolina Duck, 1169
 Carrier Pigeons, 1210, 1212, 1213-15,
 1219, 1226, 1227
 Catarrh, 301, 305
 Cayuga Ducks, 54, 1152-54
 Chamberlain strain, 560, 571
 Charcoal, 173, 195
 Cheer Pheasant, 1258
 Chequered Dove House Pigeon, 1185
 Chick, Care of the, 132-34
 Checked development in a, 856
 Development of a — within the
 shell, 121-32
 Feeding a, 132-34, 139, 184, 983
 Chicken mites, 310, 312
 Chickens, Feeding, 155, 192-96
 Raising, 119
 Chicks, Andalusian, 879, 883
 Brahma, 562
 Game, 366
 Hamburg, 934
 Houdan, 968, 980-85
 Langshan, 604
 Leghorn, 789, 829, 830, 838, 854
 Minorca, 869
 Polish, 916, 921
 Spanish, 894
 China Ring-neck Pheasant, 1246
 Chinese or Swan Goose, 1101, 1114
 Chittagongs, 392-95, 414, 563, 660,
 889
 Chittiprats or Praters, 942
 Cholera, 301, 304
 Chorion, 125
 Cicatricula or germ, 123
 Cities, Best breeds to keep in, 588,
 729, 809, 829, 842, 866, 892
 Cleanliness, 260, 301, 302, 310
 Clear eggs, 122
 Coal ashes, 926
 Cochins, 7, 53, 66, 85, 93, 187, 459,
 586, 588-93, 603
 Black, 537, 551-54, 589
 Buff, 526, 539, 544-51, 766, 827
 Partridge, 53, 233, 526, 551,
 554-58
 Red, 731
 Seabright, 655-59, 665
 White, 551-54
 Cock bread, 369
 in breeding, 28, 39, 45, 55, 113,
 115, 337, 506, 509-11, 620, 632,
 741, 746
 Fighting, 5, 6, 287, 320, 325, 390,
 418, 420, 422
 Cockerel or sickel-tail hens, 880, 886
 Cocking mains, 341, 348
 Cocks, Alternating, 290
 Carriage of the head in, 740
 Conditioning game, 368
 Predominance of—in hatching, 115
 Colds, 263, 271, 274
 Cold storage, 68, 70, 140, 141
 Color, Effect of crossing on, 29
 54-56, 342, 648, 814
 Effect of food on, 52-57
 Effect on market value of the—of
 the skin, 215
 Effect of shade and soil on, 52-57
 in eggs, 62, 83-86, 88, 90, 158,
 460
 Combattant du Nord, 420
 Commercial value of various breeds,
 60, 101-03, 363, 407, 476,
 674, 748, 811
 Combs, 4, 548
 in capons, 225, 231, 232, 244
 Cutting game cocks', 367
 in disease, 174, 303
 Five pointed, 796
 in health, 42
 Leaf, 962, 963
 Low, 841, 842, 848
 Pea, 571, 638
 Rose, 958
 Stag-horn or antler, 962
 Strawberry, 963, 964
 V-shaped, 964, 974
 Conditioning pills, 368
 Coop, Hanging, 261
 Coops, 15, 204, 210
 Copheads, 957
 Coppies, 908
 Corals or Creoles, 940, 957
 Corn, 159
 Cornish Indian or Pheasant Malay,
 18-20, 36, 49, 345, 397-405,
 415
 Corns, 850
 Cost of keeping various breeds, 739,
 797, 846
 of producing eggs, 100
 Cottonseed meal, 167
 Coucou de Malines, 1021
 Cramming machine, 204, 211, 217,
 220
 Crest, Washing a, 985
 Crested White Duck, 1166
 Crève-Cœurs, 18, 231, 916, 964, 997-
 1000
 Cropper Pigeon, 1186
 Crossing, 7, 27, 29-38, 40, 510, 725
 American and English systems of,
 41-44, 50
 for blue colored fowls, 648
 for buff-colored fowls, 781
 for capons, 235, 237, 238
 Cock in, 55
 Ear-lobes in, 819
 for egg, production, 762, 847
 for fattening, 220
 on the flesh quality, 19, 467

Index

- Crossing, Improvement through, 48,
50
for market, 214
for size, 7, 50, 235, 467
in various breeds, 6, 49, 50,
220, 459, 467-75, 477, 480-83,
485, 554, 589, 590, 632, 762,
840, 842, 863, 867, 869, 873,
877, 879, 884, 1003
for yellow shanks, 235
Crow Chickens, 1034, 1035
Crowding as a cause of disease, 302
Culls, 714, 750
Curtains, 272, 279, 284, 290
- Dalmatian or Persian Powder, 120
Damascen Pigeons, 1231
Dampness, 256, 362
Darby Red Games, 326, 327, 342,
344-46
Darbyshire Red Caps, 957
Darkings, 451
Dead chick eggs, 122
Decoy Duck, 1166
Deformities, 28, 44, 629
Dermanyssus gallinæ, 310
Desiccating eggs, 71
Dewlap in geese, 1095
Diphtheria, 306
Diarrhea, 303, 304
Domestique Fowls, 1, 5, 414, 425-43
Dominiques, American Rose-comb,
93, 674, 753-58, 840
Dorking Village, 443-46, 453
Dorkings, 19, 48, 49, 57, 200, 235,
238, 444, 447, 451-512, 767,
863, 884, 889, 947, 961, 1002
Black-Breasted Red, 383
Buff, 496
Colored, 460
Cuckoo, 472, 644
Dark, 53, 383, 454, 460, 472, 495
Gold, 384
Silver Gray, 34, 383, 454, 486, 493
Silver Gray Duckwing, 479
Spangled, 384
Speckled, 384
White, 469, 496, 498-500, 504
Doves, 253, 258, 265, 268, 274, 275,
276, 277, 279, 284
Double matings, 549, 556, 584, 618,
623-26, 678, 807, 836, 1041
Doubled eggs, 115
Dove House Pigeons, 1184, 1185,
1213
Drainage, 256, 266, 273
Dragoon or Dragon Pigeons, 1189,
1213, 1226, 1231
Dressing Capons for market, 234,
243-45
Ducks for market, 1139-41
Geese for market, 1087
Drinking Dish, 261, 276
for Pigeons, 1196
Dropping Platforms, 260, 267
- Ducklings, 1119-21, 1126, 1137-39
Ducks, 1, 9, 10, 62, 88, 293-97,
1117-74
Duclair Ducks, 1164
Dumbartonshire Fowl, 521
Dunghill Fowls, 889
Dust Bath, 4, 259
Dutch Ducks, 1144, 1159
Dwarf Duck, 1166
Everlasting or Everyday Layers,
906, 929, 935, 936, 939, 942, 959
- Ear lobe, 448, 819
Whitning, 947, 953
Easter eggs, 59
East Indian Duck, 54, 1130, 1153,
1154, 1165
Eaves, 275
Egg, Analysis of an, 86, 122, 150, 188
Development of the, 116
of the chick within the, 121-32
eating in hens, 172, 263
Influence of feed on—production,
95-97, 149-57, 166, 182
Influence of molting on—pro-
duction, 99
Influence of Vulture hocks on—
production, 20
Influence of shanks on—produc-
tion, 740, 747
Red pepper to stimulate—pro-
duction, 174
Retarding—production, 168
Structure of an, 82-84
Tube, 117
Eggs, Andalusian, 61, 876, 887
Brahma, 51, 85, 87
American Light, 102
Cochin, 85
Buff, 102
Color in, 62, 83-86, 88, 90, 158, 460
Diamond Jubilee Orpingtons, 771
Duck, 62, 88
Exportation of, 73
Game, 326
Guinea Fowl, 62, 88, 1276
Goose, 62, 88
for hatching, 74, 75, 98, 113-16
Hamburg, 102
Heron, 61
Houdan, 968, 971
Influence of feed on, 86-88
Importation of, 73
La Flèche, 56
Langshan, 56, 61, 102
Leghorn, 85, 855
Single-comb white, 101
Single-comb brown, 102, 796,
811
Rose-comb brown, 845
Minorca, 61, 85, 102
Black, 21, 102, 867
White, 873
Number of—to a nest, 121
Plymouth Rock, 102

- Eggs, Plymouth Rock
 Barred, 102
 White, 102
 Polish, 21
 for private trade, 73, 74
 Turkey, 88, 1208
 Wyandottes, Silver-penciled, 102
 White, 102
- Egg shells, 42, 152
- Egyptian or Blue Poland, 906, 907
 Goose, 128, 1110
- Eider Duck, 1174
- Electric regulator, 293
- Elliot's Pheasant, 1263
- Emden Geese, 1083-91, 1097, 1099, 1100, 1102, 1104, 1107, 1175
- Embryo, 108, 126
- England, Leghorns in, 793
 Leghorns single-comb brown, 807
 Leghorns single-comb white, 792-94
 Black-necked Pheasant, 1246, 1258
 breeds, 200, 210
 Golden Pheasant, 1253
 Pheasant, 1258, 1259
 Ring-neck Pheasant, 1246, 1258
 Silver Pheasant, 1253
 White Duck, 1144
- Exercise, 178, 182, 183, 224, 240, 250, 258, 264, 484
- Exporting, 71, 222
- Eyes, 548, 631
- Falcon or Vulture hocks, 20, 532-34
 586
- Fantail Pigeons, 1186, 1210, 1213, 1225
- Fan-wing Duck, 1170
- Farming, Requisites for poultry, 11, 12
- Fasted Fowls, 210
- Fat, Excessive, 187, 189, 191, 107, 198
- Fattening, 201, 850
 Coops, 201-13
 Ducks, 1147
 Feeds, 152, 153, 161, 162, 181, 182, 108
 Formulas, 202, 203, 205-10, 212, 228
 Houses for ducks, 297
 Pens, 210
 Turkeys, 1209
- Faverolles, 991-95
 Blue, 992
 English Ermine, 992, 993
 Salmon, 992-95
 French Black, 992
 Salmon, 992
- Finished Fowls, 199
- Feeding Capons, 237, 242
 Cochins, 187
 Ducklings, 1136
 Ducks, 1125, 1126, 1133, 1135-37, 1143
 Games, 369-73
 Goslings, 1081, 1086
- Feeding, Henry's method of, 158
 Improper, 301, 303
 Incubator chicks, 139
 Leghorns, 99, 186, 187, 850, 853, 854
 pheasants, 1254
 pullets, 185
- Feeds, by-products and hay, 165-67
 Condimental, 173
 Cooked vs. uncooked, 176
 Fattening, 152, 153, 161, 162, 181, 184, 198
 For chicks, 132-34, 335
 Grain, 157-65
 Grit and Mineral, 171
 Influence of—on color, 52-57, 552
 Influence of—on egg production, 95-97, 99, 149-57, 166, 182
 Influence of—on eggs, 86-88, 152
 Meat, 168
 Palatability in, 175
 Variety in, 176
 Vegetable, 169
 Whole grain vs. ground grain, 181
- Fencing, 850
- Five-toes, 447, 452, 454, 461, 498
- Fixtures, 15, 210
- Flemish Games, 418
- Flock, Size of a—of hens, 29
 Small—better for laying, 250
- Floors, 251, 256, 263, 264, 274
- Florentine or Hen Pigeons, 1213, 1228
- Food, How much—and when to feed, 177-80
 Influence of temperature on—consumption, 184
- Fowls, Habits of, 4
- French breeds, 93, 200
 Games, 420-22
- Frill Back Pigeons, 1213, 1228
- Frizzled Fowls, 1015
- Furness hen, 30
- Game Fowls, 186, 326-30, 333-48, 359-64, 367, 369-73, 380, 396, 406, 797
- Gape worms or gapes, 309
- Gastritis or inflamed crop, 303
- Geese runs and yards, 1086
 Moving, 1077
- Germ or cicatricula, 122
- Gillikens, 1018, 1026
- Gluten products, 166
- Golden Pheasant, 1246, 1252, 1263
- Goose, 62, 88, 211, 1073-1116
- Goslings, 1081, 1082, 1086, 1087
- Grain, 181
- Gray Lag Goose, 1074, 1091
- Great or Giant Games, 330
- Grit, 171, 302
 Box, 261
- Guelders, 1020
- Guinea or Barbary Duck, 1163
- Guinea Fowl, 1, 7, 8, 62, 88, 116, 1276-78

Index

- Hackle drawing, 362
 Half Moonies or Lancashire Crescents, 939
 Hamburgs, 15, 21, 47, 85, 90, 99, 102, 200, 753, 757, 880, 929-56, 957, 958
 Black, 847, 929, 932, 946, 947, 953
 Dutch Penciled, 946
 Hen-tailed or Henny Penciled, 936
 Golden Penciled, 945
 Golden Spangled, 53, 932, 936, 937, 938
 Penciled, 929, 930, 931, 943, 955, 957
 Spangled, 915, 929, 934-42, 955
 Silver Penciled, 942-45, 950
 Silver Spangled, 937, 953
 Tufted, 906, 908-10
 White, 948-50, 953
 Hatching, Eggs for, 74, 75, 98, 113-16
 Seasons for, 120, 140, 190, 223, 297
 Nurseries, 141, 142
 Artificial—in Egypt, 142
 Heads, breeding for, 740
 Higglers, 134
 Helmet Pigeons, 1180, 1213
 Hen, Analysis of a, 150
 Condition for breeding, 42, 113, 120
 Feeding a setting, 188
 Influence of color of a, 625, 747
 Influence of shape and size of a, 45, 511, 558, 746
 Mating age for a, 28, 45, 116, 336, 337, 506, 509, 511
 Henny Games, 376
 Hen's, Influence of—age on sex, 115
 Hens, Best laying period for, 98
 Cockerel or Sickle-tailed, 880-886
 Egg eating in, 172, 263
 Feeding to break up broody, 189
 Feeding for molting, 190, 990
 Feeding sitting, 188
 Hawk-heads in, 740
 Number of—to a flock, 290, 364, 741
 Treatment of a sitting, 365
 Size of a flock of, 29
 Henry's Feeding, 158
 Herculean Games, 330
 Hock covering, 533
 Ho-Ki Pigeons, 1250
 Homer or Antwerp Pigeons, 1180, 1231-33, 1213
 Hominy chops, 160, 165
 Hong-Kong Goose, 1100, 1101, 1108
 Honker Goose, 1115
 Hook-billed Duck, 1173
 Horsfalt Pheasant, 1250
 Houdans, 17, 18, 93, 200, 961-90
 House Martins, 46
 Houses, Continuous, 288
 Canadian, 277
 Connecticut Experiment Station, 267
 Houses, with double runs, 285
 Duston's practical, 268
 Duck, 293-97
 General remarks on, 15
 Hatch Experiment Station, 267
 Maine Experiment Station, 270
 New Idea, 273, 276
 Pigeon, 1233-36
 with scratching shed underneath, 264
 with scratching shed having a curtailed front, 280
 Simple forms of, 263
 Spanish Fowl, 901
 Square, 251
 Transformed implement, 262
 West Virginia Experiment Station, 265
 Wyandottes, 15
 Hover Pens, 291, 292, 296
 Hova Games, 422
 Hutchins' Goose, 1113
 Hyacinth Pigeons, 1213
 Ice Pigeons, 1213
 Impeyan or Monaul Pheasant, 1249, 1254, 1255
 Importing eggs, 76
 Impregnation, 47
 Inbreeding, 30, 41, 46, 450, 511, 618, 737, 749
 in Barred Plymouth Rocks, 618
 in Dark Brahmas, 566
 Effect on egg organs of, 762
 in Game Cocks, 335-42, 376
 Loss of color from, 547
 in Partridge Cochins, 549-51
 in Pile Leghorns, 836
 in Polish, 919
 in Single-comb Brown Leghorns, 805
 for stamina, 337, 338, 341, 750
 Incubator, Feeding-chicks, 139
 Houses, 295, 297
 Incubating fever, 47
 fever, To prevent, 565
 Incubators, 119, 135-47, 295, 297
 Care of eggs in, 138, 139, 145-47
 Heating, 145
 India Goose, 1097
 Indian or Azeel Games, 37, 47, 50, 51, 200, 235, 237, 238, 377-84, 387, 413, 415, 1033
 Runner Duck, 1155-59
 Indigestion, 173, 176, 182, 195, 263, 303
 Interests, Table of Poultry, 78-80
 Isolation, 304, 306
 Italian Fowl, 21, 66, 788, 793, 860, 861
 Jacobine Pigeon, 1186, 1212, 1221
 Java, 93, 723, 729
 Black, 611, 723-27, 729
 English, 729

- Java, Mottled, 727-29
 White, 724
 Jersey Blues, 647-49
 Jew Wattle, 1214
 Journals, Poultry, 67, 72
 Judging eggs, 88-90
 Jungle Fowl, 98, 315-18, 319, 388,
 578, 1264
 Ceylon, 1264
 Fork-tailed, 1246
 Gray or Sonnerat, 1246, 1250, 1264
 Green or Java, 1265
 Red, 1264

 Kaleege Pheasant, 1253
 Kent or Sussex Duck, 1120
 Kentucky Blue Games, 54
 Knob Goose, 1101, 1108

 La Bresse, 1010
 Lady Amherst Pheasants, 1254, 1264
 La Flèche, 18, 61, 231, 947, 1006-08
 Lakenvelders, 1023-25
 Lancashire Crescents or Half Moonies
 929
 Moonies, 929, 935, 937, 938-40, 946
 Langshans, 18, 20, 50, 56, 61, 66, 93,
 99, 102, 587-608, 762, 1003
 Black, 589, 764
 Brown, 603
 Laying, best period, 98, 255
 Effect of exercise on, 249
 Effect of weather on, 183
 fertile eggs without contact with
 a cock, 37
 habits of ducks, 1123
 Premature, 853
 qualities of:
 Anconas, 21, 93, 857, 860
 Andalusians, 93
 Brahmas, 20, 21, 85, 86, 93, 94,
 97, 562, 578
 Cochins, 85, 93, 551
 Dominiques, 93, 957
 Games, 384, 391, 395, 797
 Hamburgs, 85, 90, 200, 767, 932,
 934, 955, 956
 Houdans, 93, 966, 971
 Javas, 728
 Jersey Blues, 647
 Langshans, 20, 93
 Leghorns, 21, 52, 85, 93, 95, 97,
 790, 827, 833, 839, 840, 842, 846
 Minorcas, 93, 764, 789, 865, 868,
 873
 Orpingtons, 93, 767, 768, 771,
 772, 774
 Plymouth Rocks, 93, 94, 97, 645,
 762, 763, 847
 Polish, 93, 200, 916, 922
 Rhode Island Reds, 96, 97, 731, 739
 Shanghais, 523
 Spanish, 93, 889
 various breeds, 20, 21, 90, 93,
 95, 97-99, 274, 774

 Laying Qualities of Wyandottes, 93,
 94, 97, 673, 688, 703, 706, 716
 Laying, Short shanks best for, 740
 Laying, Small flock best for, 250
 Leeds or Shake-bag Games, 330-32,
 889
 Leghorns, 85, 93, 99, 186, 187, 288-90,
 754, 787-856, 859-61, 863, 875,
 876
 Cuckoo, 796, 839
 Dominique, 839-41
 Duckwing, Golden, 831, 832
 Silver, 831-34.
 Mottled—, *viz.* Ancona
 Pile, 834-39
 Rose-comb, Brown, 848
 Buff, 841
 White, 841-46
 Single-comb, Black, 828-31
 Brown, 97, 102, 732, 745, 788,
 790, 795, 805-12
 Buff, 812-28, 837
 White, 789, 799-805
 Yellow, 813
 Lice or Mallophaga, 309
 Liège Games, 419
 Lineated Pheasants, 1257
 Linseed, 167
 Livers, 1089
 Location, 247, 262, 294
 for game fowl ranch, 363
 for pheasant ranch, 1252
 Lord Hill's strain, 470, 508
 Loft or Aviary for pigeons, 1191-98

 Madagascar Games, 412, 421
 Mandarin Ducks, 1170
 Magpie Pigeons, 1213
 Malayoid type, 412, 414
 Malay Games, 332, 333, 385-92,
 414
 Malays, 47, 49, 414, 732, 889
 Mallard or Wild Duck, 1122, 1129,
 1144, 1148, 1169
 Mallophaga or Lice, 309
 Manchurian or Eared Pheasant, 1257
 Mantes, 1009
 Marchegiana, 859, 861
 Market, age for hens, 98
 Crossing for poultry, 214
 dressed capons, 234, 243-45
 dressed Ducks, 1139-41
 dressed Geese, 1087
 for Ducks, 203
 Finishing for, 197-216, 221-24,
 228-30
 for Goslings, 1087
 for Poultry, 215
 Method of placing eggs on, 69
 Plymouth Rocks for, 200, 674
 Rhode Island Reds for, 747
 Market Terms for eggs, 69, 70
 Value of white and yellow shanks
 for, 50, 966, 967, 968
 Wyandottes for, 698

Index

- Markings, 414, 577, 622, 930, 943
 Meat Foods, 168, 853
 Mealy Gray Games, 338
 Mediterranean Breeds, 47, 93, 200,
 787, 857, 896, 902
 Melanotus, or Black-backed Kaleege
 Pheasant, 1250, 1257
 Minorcas, 61, 85, 93, 102, 790, 857,
 859, 865-73, 876, 941, 946,
 947
 Black, 21, 102, 764, 865-70, 883
 White, 865, 870-73
 Molting, 190, 933, 990
 Monaul or Impeyan Pheasant, 1254,
 1255
 Mongolian Pheasant, 1259
 Monitor Top, 296
 Minoshki Games, 414
 Monstrosities, 115, 116
 Mookie Pigeons, 1213
 Moorhead Pigeons, 1213
 Mossies, 945
 Muffled Games, 373
 Muffles or Beards, 906, 912-14
 Muscovy Goose, 1101
 or Musk Duck, 1163

 Naked necks, 1018, 1026
 Negroes, 1003, 1004
 Nesting rooms, 295
 Nests, 119, 260, 263, 273, 276, 278
 for Geese, 1085
 Nettles, 1081
 Nimble Lizard, 124
 Non-incubating breeds, 21, 907, 909,
 929, 932, 968
 Nudes, 1018
 Number of eggs to a nest, 121
 Nun Pigeons, 1189, 1211, 1213
 Nutrimet, Eggs as, 2, 81, 103, 106

 Oats, 160
 Old English Black-breasted Blood-
 reds, 53, 342, 344-46, 940
 Games, 21, 35, 46, 139, 322,
 329, 330, 346, 362, 396, 405,
 916
 White-legged Games, 940
 Kent, Sussex and Surrey Fowls,
 VIII., 6, 46, 49, 322, 431, 444-
 48, 451, 459, 461, 464, 465,
 467-75, 497, 503, 508-12, 1028
 Old Muffled Chop Hen, 992
 Oon eggs, 117
 Oriental Frill Pigeons, 1213, 1250
 Orpingtons, 18, 200, 761-79
 Buff, 761, 766, 767, 773, 774, 777,
 783
 Diamond Jubilee, 768-71
 Rose-comb Black, 765
 Spangled, 773
 White, 763
 Single-comb Black, 762-64
 Spangled, 771-73
 White, 763

 Oviductus, 117
 Ovarium, 116-117
 Owl Pigeons, 1212, 1223, 1230,
 1231

 Padua Fowls, 905
 Pallasian doctrine, 413
 Parkhouse Games, 341
 Peacock Pheasants, 1260
 Peacocks, 1266-75
 Common, 1262, 1266, 1267
 Japan or Black-wing, 1262, 1266,
 1267
 Javan or Burmese, 1267
 Pied Pea, 1262
 Pedigree, value of, 817
 Pekin Duck, 10, 59, 102, 297, 1118,
 1119, 1131, 1132, 1133, 1141-
 44, 1170
 Penciling, 577
 Penguin Ducks, 1164
 Perches, 260, 263, 271, 284, 335
 Persian or Dalmatian powder, 120
 Pheasant Malays or Cornish Indian,
 18, 19, 20, 36, 49, 345, 397-
 405, 415
 Pheasant markings, 414
 Pheasants, 1246-65
 Phoenix Fowls, 1026, 1028-32
 Pickling eggs, 68, 110
 Pigeons, 1183-1245
 Pigmies, 1033
 Pit names, 347
 Plucking, 213, 214
 Plymouth Rocks, 15, 93, 94, 99, 102,
 200, 233, 609-645, 674
 Barred, 17, 20, 53, 97, 102, 610-13
 618, 619, 622-26, 629, 640-45,
 762, 763, 847
 Buff, 52, 97, 629-32
 Pea-comb Barred, 638-40
 White, 53, 102, 633-38
 Pneumonia, 307
 Porcelain Pigeons, 1213
 Polish or Polands, 21, 93, 200, 452,
 889, 905-28, 947, 961, 963,
 1033, 1060
 Black, 916
 Blue, 916
 Buff Laced, 916, 924
 Golden, 907, 912, 919-22, 924
 Laced or Spangled, 913, 915, 916,
 919, 923
 Silver Bearded, 907, 913, 918, 922,
 924, 927
 White, 916, 1013
 Booted or Sultan, 1062
 Crested Black, 912, 913, 916, 918
 926
 Portugal Fowl, 865
 Poultry,
 Essential to success in the business,
 247
 Farming requisites, 11, 12
 Journals, 67, 72

- Poultry, Market for, 215
 Statistics, 78
 Pouter Pigeon, 1210, 1212, 1215,
 1219
 Praters or Chitty-prats, 942
 Preserving eggs, 107, 113
 Priest Pigeons, 1213, 1229
 Prize winner,
 Value of a—in breeding, 510
 Pullets, 150, 185
 Pure bred Fowls, 7, 10, 23, 29, 46, 53,
 67, 98, 113, 214, 428, 708, 776,
 777, 889

 Quaker Pigeons, 1213
 Queen Victoria's Cochins, 528-32

 Race de Barbarie, 421
 Raising Capons, 235
 Games, 797
 Goslings, 1082, 1087
 Guinea Fowl, 1276
 Hamburgs, 933, 942
 Leghorns, 288-90, 849-56
 Peacocks, 1268-71, 1274
 Pheasants, 1253
 Pigeons, 1188-91
 Polish, 927
 Squab, 1237-45
 Turkeys, 1208
 Ranches for Ducks, 293-96
 Rations, Balancing, 180
 Tables of Balanced, 154-57
 Redcaps or Corals, 940, 957-59,
 1035
 Red Grouse, 53
 Redheads, 957
 Red pepper, 174
 Red Pile Games, 325
 Reeves' Pheasants, 1250, 1253, 1263
 Rheumatism, 263
 Rhode Island Reds, 18, 731-51
 Ring Dove Pigeon, 1184
 Ring-necked Pheasant, 1246, 1258,
 1259
 Roofs, 251, 286, 290
 Roosting Platforms, 280, 271, 284
 Sheds, 15, 16, 247, 270, 271-72,
 280-81
 Rosetops, 957
 Roubaix, Cockpit at, 420
 Rouen Ducks, 10, 1119, 1122, 1125,
 1148-52, 1159
 Roup, 263, 305, 309
 Ruffs, 913-14
 Rumpless Fowl or Wallikiki, 1016
 Runs, 15, 264-66, 285, 295-96, 868,
 1086
 Runt Pigeons, 1212, 1219
 Rye, 162

 Salt, 173
 Sammering's Pheasants, 1263
 Scandaroon Pigeons, 1213, 1227
 Scotch Bakies, 519-21
 Scotch Grays, 514-19, 644
 Scratching sheds, 247, 258, 267, 271,
 274, 280-81, 284, 287-88
 Screens, 279, 293
 Seabrights, American, 654, 667, 668,
 670,
 Silver, 659-60, 667
 Sebastopol Goose, 1110
 Selling eggs, 101-03
 Separation of sexes, 29, 113, 855
 of varieties, 29, 80
 Setting, Care of—Goose, 1079
 Care of—Hen, 365
 Feeding—Hen, 188
 Shade, Effect on Color, 52-57
 Shake-bags or Leed's Games, 330-32,
 889
 Shamo Games, 412
 Shanghais, 7, 49, 66, 459, 467, 523-27
 534-37, 563, 566, 586-90,
 592, 603, 781, 1003
 Gray, 529, 532, 559, 562
 Shanks, Black, 693
 Blue, 949-50
 Clean, 18
 White, 50, 486, 489, 502, 948-50
 Yellow, 50, 56, 235, 478, 692, 715,
 747, 799, 829, 831, 966-68
 Sheldrake Duck, Common, 1172
 Ruddy, 1173
 Show, Age at which to—Poultry,
 506
 Conditioning for, 902, 947, 950-54,
 986-90
 Shows, Poultry, 7
 Siamese Fireback Pheasant, 1250,
 1256
 Siam Geese, 1096
 Silkies, 1001-5
 Silver Pheasants, 1250, 1252, 1257
 Single matings, 585, 623-26, 639,
 715, 807
 Slips, 237, 240, 244
 Soemering Pheasant, 1254
 Soil, Effect of—on color, 7, 52
 Effect of—on fowls, 53
 Sonnerat Games, 412
 Snow Goose, 1113
 Sores, 901
 Space, in houses, 264, 290
 in roosting, 260, 265
 in yards, 296
 Spanish Games, 422
 Geese, 1102, 1104-5
 Red-faced Black, 865, 1010
 White, 870, 876-77, 897
 White-faced Black, 21, 46, 93,
 867, 876, 879, 889-903, 941,
 942
 Sparrows, To keep out, 280
 Spermatozoa, 48
 Spice, 303
 Spoonbill Ducks, 1172
 Sports, 376, 633, 642, 679, 680, 691,
 703, 765, 883

Index

Spot Pigeons, 1189, 1213
 Spurs, Artificial, 322, 350-52, 355-58
 Natural, 322, 337, 428
 Spur Winged Goose, 1111-13
 Squabs, 1237-45
 Squirrel-tail, 328, 900
 Stamina, 35, 367
 Inbreeding for, 337-38, 341, 750
 Mating for, 28
 Out crossing for, 28
 Standards for, Anconas, 841, 863
 Andalusians, 878
 Blue Swedish Duck, 1161-62
 Brahmas, American Light, 560, 755
 Dark, 581-84
 Cochins, 541-43
 Dorkings, 488
 Dominiques, American Rose-comb, 754-57
 Eggs, 89
 Faverolles, Salmon, 993-95
 Games, 326-30, 359-63
 Houdans, 965, 973-76
 Javas, 725, 729
 Mottled, 727, 729
 Lakenvelders, 1024
 Langshans, 591, 595, 598, 607
 Leghorns, 795, 797
 Pile, 836
 Rose-comb Brown, 805, 808
 Rose-comb White, 842, 845
 Single-comb Black, 831
 Single-comb Brown, 806, 808
 Single-comb White, 799
 Orpingtons, Buff, 767
 Polish, 905, 917
 Plymouth Rocks, 613-18
 Buff, 631
 White, 637
 Rhode Island Reds, 733-37
 Spanish, Black, 890, 892-94, 897-99, 902
 White, 870
 Wyandottes, 658, 673-77
 Partridge, 704
 Silver, 679-83
 Silver Penciled, 711-14, 716
 Starling Pigeons, 1213
 Statistics of eggs, 71-73
 Statistics of Poultry Interests, 78
 Stock Dove, 1184
 Strain, Breeding to retain purity of, 38, 57, 725
 Selecting a strain, 21, 28, 777, 793
 Stud Book, Keeping a, 817, 821
 Suabian Pigeons, 1213
 Sultan Fowls, 916, 1012-14
 Sumatra Games, 414
 Summer Ducks, 1167
 Sun, Effect of—on fowls, 53
 Sunflower seed, 954
 Swallow Pigeons, 1211, 1213
 Swan Goose, 1104
 Swans, 1175-82

Swans, American, 1181
 Becorck, 1180
 Black, 1180
 Hooper, 1180
 Mute, 1180
 Polish, 1180
 Trumpeter, 1181
 Whistling, 1180
 Swinhoe Pheasants, 1250, 1258

 Table of the average composition of
 eggs, 104
 Balanced rations, 154-57
 By-products and hay, 165
 Grain foods, 157
 Poultry interests, 78-80
 Meat foods, 167
 Vegetable foods, 169
 Table Fowls, 10, 19, 433, 462, 748
 Best breeds for, 17, 49, 209
 Various breeds as, 17, 18, 21, 52, 200, 380, 396, 431, 465, 467, 478, 483, 490, 496, 497, 562, 578, 587, 593, 601, 639, 674, 688, 726, 731, 739, 747, 758, 767, 773, 783, 796, 797, 841, 842, 869, 891, 911, 966, 968, 1007
 Tail carriage, 945
 Tasseled Games, 374
 Temperature, 255, 270, 279, 293, 297, 849
 Cause of disease, 302
 Effect of—on egg production, 255
 Effect of—on food consumption, 184
 Troughs, 210
 Top-Knotted Duck, 1166
 Torquatus Pheasant, 1258-59
 Toulouse Geese, 1090-97, 1099, 1100, 1102, 1105, 1107
 Toy Pigeons, 1219
 Tragopan Pheasants, 1248, 1254
 Tramway for food, 295
 Trap door, 288, 292
 Trap nests, 802
 Trumpeter Pigeons, 1186, 1212, 1223-25
 Tufts, 905, 908, 911, 916, 921, 926, 927
 Tumbler Pigeons, 1186, 1226
 Flying, 1189, 1231
 Long-faced, 1213
 Short-faced, 1212, 1217, 1219
 Turkeys, 1, 8, 10, 88, 127-99
 Black, 1294
 Black Norfolk, 1295
 Bourbon Red, 1294
 Bronze, 1289-91, 1295
 Brush, 1289
 Buff, 1293-94
 Cambridge, 1295
 Italian, 1295
 Narraganset, 1290
 Necks, 1018, 1026

- Turkeys, Slate, 1294
 White Austrian, 1295
 White Holland, 1291-93
 Wild, 1284, 1188
 Turbit Pigeons, 1211-12, 1220, 1230
 Turtle Dove, 1184

 Underbarring, 622
 Under color, 683

 Valdarno Fowls, 859
 Velvet Breeches Fowls, 958
 Ventilation, 15, 253, 255, 257, 265,
 270, 274, 280, 281, 287, 288
 Versicolor or Green Japanese Pheasant, 1260
 Vermin, 120, 259, 260, 263, 302
 Vertebra, 123, 127
 Vieillot's Fireback Pheasant, 1255
 Vulture or Falcon Hocks, 20, 532-34,
 586
 Vulturine Guinea Fowl, 1248, 1262

 Walks for Games, 364
 Wallikiki or Rumpless Fowl, 1016
 Walls, 256, 272, 273, 282, 288, 295,
 298
 Washing White Wyandottes, 690
 Water, 174
 Yards, 1087
 Wattled Pigeons, 1186
 Wattles in capons, 225, 244
 Weather, Effect of—on laying, 183
 Weight of Black Javas, 723, 729
 Capons, 236
 Eggs, 102
 Jersey Blues, 647
 Leghorns, 796, 798
 Minorcas, Black, 865
 Orpingtons, 763
 Buff, 774
 Rose-comb Black, 765
 Spangled, 773
 Wyandottes, Silver Penciled, 716
 Wheat, 157
 Bran, 165

 Whiskered Black Booted Bantams,
 1067
 White in Buff Orpington Cocks, 778
 Chinese Goose, 1097, 1100, 1103,
 1107-10
 Corn, 552
 Fronted Goose, 1113
 Pheasant, 1258
 Plumage, 637
 Wild Duck, 1169
 Whitening ear-lobes, 947, 953
 Wild Birds, 46
 Canada Goose, 1114-16
 Pigeons, 1186
 Windows, 253, 267, 283, 284, 288
 Winnebagoes, 683
 Wing, Broken, 1087
 Feathers, 855
 Winter Laying, Breeds for, 99, 100,
 587, 603, 696, 785, 867, 967
 Wood Duck, 1169
 Wyandottes, 15, 200, 651-722
 Black, 691-93
 Buff, 694-99
 Buff Laced, 717
 Columbian, 716
 Golden, 53, 660, 683-86
 Partridge, 699-707, 714
 Silver, 97, 102, 654, 655, 659, 660,
 660, 670-83
 Silver Penciled, 708-16
 Violet, 717
 White, 17, 94, 97, 102, 686-90
 Wyckoff strain, 800, 801

 Xanthus, 54

 Yards, 15, 249, 264, 265, 266, 285,
 295, 296, 868, 1086
 Yellow Corn, Effect on color of, 552
 Yolk Bag, 122, 126
 Yolks, Eggs with double, 115
 Yokohama Fowls, 1026, 1027, 1031
 Yorkshire Ever Layers, 957
 Pheasants, 929, 935, 937, 940

